

EIGHTEENTH  
ANNUAL REPORT

ON THE

CONDITION OF THE COMBINED  
SANITARY DISTRICT

OF

WEST SUSSEX,

FOR THE YEAR 1891.

BY

CHARLES KELLY, M.D., F.R.C.P.,

MEDICAL OFFICER OF HEALTH,

PROFESSOR OF HYGIENE IN KING'S COLLEGE, LONDON.


---

Horsham :

WEST SUSSEX TIMES & SUSSEX STANDARD, MARKET SQUARE.

—  
1892.

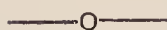




Digitized by the Internet Archive  
in 2018 with funding from  
Wellcome Library

<https://archive.org/details/b30264364>

# INDEX.



## STEYNING DISTRICT ..... 1-20

Population .....	1
Births and birth-rate .....	2
General mortality .....	3
Infant mortality .....	5
Zymotic mortality .....	6
Systematic inspection .....	6
Water supply .....	8
Drainage and sewage .....	9
Scavenging and cleansing .....	10
Sussex Chemical Works .....	11
Miscellaneous .....	11
Closing of houses .....	12
Bye-laws .....	13
Inquests.....	13
Statistical tables .....	14-20

## HORSHAM DISTRICT (Rural).....21-38

Population .....	21
Births and birth-rate .....	22
General mortality.....	23
Infant mortality .....	24
Zymotic mortality .....	25
Water supply ... ..	27
Drainage and sewage .....	27
Systematic inspection .....	29
Miscellaneous .....	30
Inquests.....	30
Statistical tables ..	32-38

## PETWORTH DISTRICT ..... 39-54

Population ... ..	39
Births and birth-rate .....	40
General mortality.....	41
Infant mortality .....	42
Zymotic mortality .....	43
Water supply .....	43
Drainage and sewage.....	44
Systematic inspection .....	44
Miscellaneous .....	45
Rainfall .....	46
Inquests.....	47
Statistical tables .....	48-54

## THAKEHAM DISTRICT ..... 55-74

Population.....	55
Births and birth-rate .....	56
General mortality .....	57
Infant mortality .....	58
Zymotic mortality .....	59
Water supply .....	60

## Thakeham (continued.)

Drainage and sewage.....	62
Scavenging and cleansing .....	62
Systematic inspection .....	63
Miscellaneous .....	67
Inquests .....	67
Statistical tables .....	68-74

## EAST PRESTON DISTRICT..... 75-90

Population .....	75
Births and birth-rate .....	76
General mortality .....	77
Infant mortality .....	78
Zymotic mortality .....	79
Bye-laws .....	80
Water supply .....	80
Drainage and sewage .....	81
Systematic inspection .....	82
Scavenging and cleansing .....	82
Miscellaneous .....	83
Inquests.....	83
Statistical tables .....	84-90

## MIDHURST DISTRICT ..... 91-108

Population .....	91
Births and birth-rate.....	92
General mortality .....	93
Infant mortality.....	94
Zymotic mortality .....	95
Water supply.....	97
Drainage and sewage .....	98
Systematic inspection .....	99
Miscellaneous.....	100
Proceedings before the Magis- trates .....	100
Inquests .....	101
Statistical tables .....	102-108

## WESTBOURNE DISTRICT ..... 109-124

Population .....	109
Births and birth-rate .....	110
General mortality .....	111
Infant mortality.....	112
Zymotic mortality .....	112
Water supply .....	114
Drainage and sewage .....	114
Systematic inspection .....	115
Miscellaneous.....	116
Inquests .....	116
Rainfall and sunshine .....	117
Statistical tables .....	118-124

# INDEX (continued).

## WORTHING DISTRICT..... 125-148

Population .....	125
Births and birth-rate .....	127
General mortality .....	128
Infant mortality .....	130
Zymotic mortality .....	131
Scarlet fever .....	131
Measles .....	132
Water supply .....	134
Drainage and sewage.....	136
Systematic inspection .....	136
Scavenging and cleansing ...	139
Bye-laws .....	139
Miscellaneous .....	140
Inquests.....	140
Rainfall .....	140
Statistical tables .....	141-148

## LITTLEHAMPTON DISTRICT ... 149-166

Population .....	149
Births and birth-rate .....	150
General mortality.....	151
Infant mortality .....	152
Zymotic mortality.....	153
Notification .....	154
Water supply .....	155
Street watering .....	156
Sewerage and drainage .....	156
Systematic inspection .....	157
Scavenging and cleansing ...	158

## Littlehampton (continued).

Bye-laws .....	158
Miscellaneous .....	158
Inquests.....	158
Statistical tables .....	159-166

## ARUNDEL DISTRICT ..... 167-180

Population .....	167
Births and Birth-rate .....	167
General mortality .....	168
Infant mortality .....	162
Zymotic mortality .....	170
Water supply .....	170
Drainage and sewage.....	171
Bye-laws .....	171
Miscellaneous .....	172
Inquests .....	172
Statistical tables .....	173-180

## HORSHAM DISTRICT (Urban) 181-188

Population .....	181
Births and birth-rate .....	181
Deaths and death-rate .....	182
Infant mortality .....	182
Zymotic mortality .....	112
Water supply .....	182
Drainage and sewage.....	183
Bye-laws .....	183
Statistical tables .....	184-188

## GENERAL REPORT — 189-207.

Population and area .....	189	Meteorology .....	201
Births and birth-rate .....	191	Rainfall .....	204
General mortality .....	192	Bright sunshine .....	205
Infant mortality .....	196	Climate of Worthing .....	206
Zymotic mortality .....	197	Temperature of soil .....	207
Notification .....	198	Sanitary Legislation in 1891.....	207
Sale of food and drugs .....	199		

TABLE I.—Showing the Births and Birth-rate in 1882-91 .....	208
---	-----

TABLE II.—Showing the Deaths and Death-rate from Zymotic Diseases in each of the ten years, 1881-90, and in 1891.....	209
---	-----

TABLE III.—Showing the Deaths in each month in the ten years 1881-90, and in 1891 .....	210
---	-----

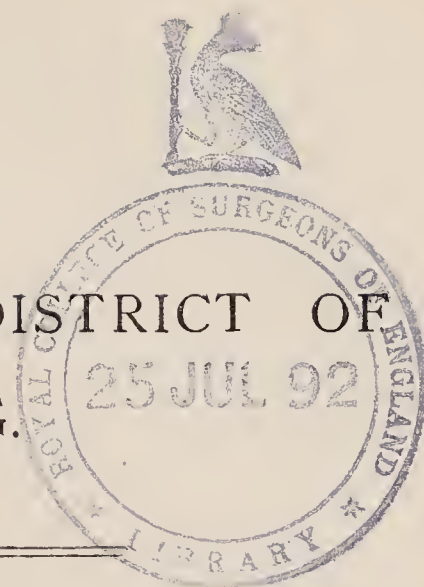
TABLE IV.— Showing the Deaths and Death-rate from all causes and from various causes in the ten years 1881-90, and in 1891 .....	211
--	-----

TABLE A.—Table of Deaths during the year 1891, in the combined Sanitary District of West Sussex, classified according to Diseases, Ages, and Localities .....	212-13
---	--------

TABLE B.—Table of Population, Births, and of New Cases of Infectious Sickness, coming to the knowledge of the Medical Officer of Health during the year 1891, in the combined Sanitary District of West Sussex, classified according to Diseases, Ages, and Localities .....	214-15
--	--------



# RURAL SANITARY DISTRICT OF STEYNING.



POPULATION IN 1871 .....	14,060
„ „ 1881 .....	16,325
„ „ 1891 .....	19,030
AREA IN ACRES .....	45,969
NUMBER OF HOUSES IN 1871 .....	2,659
„ „ 1881 .....	3,080
„ 1891 .....	not yet published.

## POPULATION.

The census returns of 1891 show that the parishes south of the Downs forming the Shoreham sub-district, and lying between Brighton and New Shoreham had increased very much, especially at Aldrington where the figures are very striking.

The parishes to the north of the Downs forming the Steyning sub-district have had an almost stationary population for the last ten years. In this area the people are chiefly engaged in agriculture, while in the southern area the people are engaged in brick-making, market gardening, gas making and shipping.

During the ten years 1881-90 the natural increase of population by excess of births over deaths was 2642; the actual increase in April last was shown to be 2,705.

In each Sub-district the changes in the population are thus shown :

	1871.	1881.	1891.
Shoreham sub-district .....	8090	10229	12983
Steyning sub-district .....	5970	6096	6047
Total	14060	16325	19030

The following figures give the population in each parish at three different census years :—

*Shoreham sub-district :—*

	1871.	1881.	1891.
West Preston .....	12	96	159
Patcham .....	760	873	1064
West Blatchington .....	49	59	95
Hangleton .....	61	79	49
Portslade .....	2344	3719	4236
Aldrington .....	27	144	2206
Southwick.....	2339	2561	2558
Kingston .....	245	262	239
Lancing .....	1069	1341	1261
Old Shoreham .....	285	248	260
Sompting .....	726	682	700
Coombes .....	92	71	86
Botolphs .....	81	94	70

*Steyning sub-district :—*

Bramber .....	173	186	169
Steyning .....	1665	1672	1705
Upper Beeding .....	580	611	506
Edburton .....	301	341	359
Poynings .....	299	316	305
Woodmancote .....	320	347	314
Henfield .....	1856	1890	2006
Ashurst .....	388	376	327
Shermanbury .....	388	363	356

## BIRTHS AND BIRTH-RATE.

During the year 1891, the births of 561 children were registered ; of these 272 were male, and 289 were female.

Estimating the population in the middle of the year at 19,100, the birth-rate was equal to 29·4 per 1,000 persons living.

The births and birth-rate in the district during the past ten years have been as follows :—

Year.	Births.	Birth-rate.	Year.	Births.	Birth-rate.
1882 ...	582 ...	34·8	1887 ...	470 ...	25·5
1883 ...	528 ...	31·0	1888 ...	507 ...	27·2
1884 ...	519 ...	29·0	1889 .	500 ...	26·7
1885 ...	524 ...	28·8	1890 ...	484 ...	25·7
1886 ...	513 ...	28·0	1891 ...	561 ...	29·4

The mean number of births is 519, and the mean birth-rate is 28·6 per 1,000 of population.

In England and Wales the birth-rate during the year was 31·4 per 1,000 persons living, a rate 1·2 per 1,000 higher than that in 1890, which was the lowest on record.

The births and birth-rate in each locality were as follows :—

	Births in 1891.		Birth-rate in 1891.
Portsedale Parish .....	157	...	36·8
Aldrington Parish .....	78	...	35·0
Southwick Parish .....	88	...	34·4
Rest of Shoreham S.D. ....	91	...	22·8
Steyning Parish .....	37	...	21·7
Henfield Parish .....	47	...	23·4
Rest of Steyning S.D.....	63	...	26·9
	<hr/>		<hr/>
Total.....	561		29·4

The birth-rate, which has been steadily declining since 1882, and reached its lowest point in 1890, showed a marked rise during the past year, and this improvement is general throughout other similar districts.

### GENERAL MORTALITY.

There were 296 deaths registered in this district in the year 1891, but to this number must be added the deaths of 12 persons in New Shoreham Workhouse, and of 1 person in the Worthing Infirmary, which public institutions are outside the district. From this total of 309 must be deducted the 4 deaths in Hangleton Hospital which occurred amongst persons not belonging to the district, leaving the corrected figures at 305.

Estimating the population in the middle of the year at 19,100, the death-rate was equal to 16·0 per 1,000 persons living, a rate higher than in any year since 1883 when it was 16·4.

In country places throughout England and Wales the mortality in 1891 was equal to 18·5 per 1,000 of population.

There is a considerable difference in the death-rate of the two sub-districts, which is chiefly due to age and sex distribution and to occupation. In the smaller agricultural area to the north, the deaths are the lowest, as the following figures show :—

*Shoreham sub-district :—*

	Deaths in 1891.		Death-rate in 1891.
Portsdale Parish .....	73	...	17·1
Aldrington Parish.....	49	...	22·0
Southwick Parish .....	30	...	11·7
Rest of sub-district .....	64	...	16·0

*Steyning sub-district :—*

Steyning Parish.....	27	...	15·8
Henfield Parish.....	26	...	13·0
Rest of sub-district .....	36	...	15·4
		<hr/>	<hr/>
Total.....	305		16·0

The variations in the death-rate during the past 10 years have been as follows :—

Year.	Deaths.	Death-rate.	Year.	Deaths.	Death-rate.
1882 ...	251	15·0	1887 ...	252	13·7
1883 ...	279	16·4	1888 ...	242	13·0
1884 ...	263	14·7	1889 ...	213	11·4
1885 ...	260	14·3	1890 ...	281	14·9
1886 ...	291	15·9	1891 ...	305	16·0

The mean number of deaths was 263·7 and the mean death-rate was 14·5 per 1,000 of population. During the same period there were 5,188 births, so that the natural increase of population by excess of births over deaths was 2,551; the actual increase as shown by the census returns was 2,705, so that several persons must have migrated into this district.

In each parish the deaths were thus distributed :—

Preston .....	none	...	Coombes.....	1
Patcham .....	15	...	Botolphs.....	none
West Blatchington	1	...	Bramber .....	4
Hangleton .....	none	...	Steyning .....	27
Portslade .....	73	...	Upper Beeding .....	4
Aldrington .....	49	...	Edburton .....	8
Southwick .....	30	...	Poynings.....	1
Kingston .....	4	...	Woodmancote .....	5
Lancing .....	27	...	Henfield .....	26
Old Shoreham.....	6	...	Ashurst .....	5
Sompting.....	10	...	Shermanbury .....	9
		<hr/>		
Total ...		305		



## INFANT MORTALITY.

The *infant mortality* is here given as measured by the number of deaths under one year of age to the total number of births in the year :—

	Births	Deaths under one year	Ratio to 1000 Births
Portsedale Parish .....	157	22	140
Aldrington Parish .....	78	11	141
Southwick Parish .....	88	7	80
Rest of Shoreham sub-district.....	91	7	77
Steyning Parish .....	37	6	162
Henfield Parish .....	47	5	106
Rest of Steyning sub-district .....	63	5	79
Total.....	561	63	112

The 63 *infantile* deaths included 3 from measles, 4 from whooping-cough, 5 from diarrhœa, 2 from tabes mesenterica, 1 from hydrocephalus, 2 from tuberculosis, 7 from convulsions, 10 from lung diseases, 15 from debility or marasmus, and 3 from malformation. Ten infants were born prematurely, and one infant was accidentally suffocated.

The ratio of infant mortality was somewhat higher than usual. In England and Wales the proportion of deaths under one year of age to registered births was 149 per 1,000 during the past year, the mean proportion in the preceeding ten years having been 142.

## ZYMOTIC MORTALITY.

The deaths from zymotic diseases were 5 in the case of those which are notifiable, and 25 in the other class where the number of cases cannot be obtained.

	Cases	Deaths
Small-pox .....	none	none
Scarlatina .....	22	none
Diphtheria .....	5	3
Membranous Croup.....	1	1
Fevers {	Typhus .....	none
	Enteric.....	1
	Continued .....	none
	Relapsing .....	none
	Puerperal .....	none
	Cholera .....	none
Erysipelas .....	3	none
Total	35	5

The Notification Act of 1889 only came into operation on May 1st. 1891, so that the figures only represent two-thirds of the year.

In the other class the deaths were as follows :—

	Deaths.
Measles .....	8
Whooping Cough .....	8
Diarrhoea and Dysentery .....	6
Rheumatic Fever .....	3
	—
Total	25

Adding the two classes together, there is a total of 30 deaths with a zymotic mortality of 1·57 per 1000.

It would appear from this table, and from others that scarlatina is the most prevalent disease, while diphtheria is the most fatal in the present day, so far as the notifiable disorders are reported.

A large proportion of the scarlet fever patients occurred among young adults.

SCARLATINA appeared in eleven houses, of which five were at Henfield, one at Steyning, one at Lancing, one at West Preston, two at Southwick, and one at Aldrington. Four persons were attacked in June, one in August, eight in October, six in November, and three in December. All the cases were of a mild character, and there was no fatal result.

DIPHTHERIA appeared in four houses, two of which were at Aldrington, one at Southwick, and one at Portslade. Two cases occurred in June, one in August, one in October, and one in December. There was no spread of the disease in any instance.

The death from *membranous croup* took place in an isolated country cottage in September, and no other person was affected, the house was in a cold and damp situation.

ENTERIC FEVER appeared in four houses in different parishes and in no case was there any spread of the disease ; one case occurred at Aldrington in August, one at Kingston in October, one at Portslade in November, and one at Steyning in December.

Isolation in each of the above cases was carried out as far as possible, and the other inmates were kept from school while the illness lasted. Each house was fumigated with burning sulphur and afterwards limewashed when the attack had terminated.

### SYSTEMATIC INSPECTION.

The routine work of inspection consisted chiefly in abating minor nuisances, and insisting on cleanliness in the house surroundings. The scavenging arrangements at Portslade and Aldrington have proved very useful in preventing accumulation of rubbish in small back yards. In the poorer class of houses, I find that the best plan is for the occupier to save his ashes, etc., in a movable receptacle which can be placed outside the house at an early hour when the dustman makes his rounds. In by far the greater number of cases, nuisances are abated without any formal

notice being given. The earth system is very unpopular, but a modified kind of privy is often adopted by making a small cesspit at the back of the closet furnished with a light lean-to cover so as to keep off rain and sunlight, while it is open at the sides so as to allow a free current of fresh air. The sides and floor are cemented so as to prevent soakage into the surrounding soil. Dry earth and ashes can be thrown in, and the contents must be frequently removed as the receptacle is made small on purpose.

A common defect is the use of bell traps which are provided on account of their cheapness. They are bad, because the women often remove the cover, so that dirty water may more rapidly flow away, and when the cover is thus taken off, the trap ceases to exist, and foul air comes up from the drain. These traps are never kept clean by any method of flushing, and I always advise that they should be done away with, and that they should be replaced by stoneware gully traps. Sometimes one meets with such a trap under a sink inside the house, and in all such cases, notice is given to have the sinkpipe deliver in the open air into a short channel leading to a gully trap. The cleansing and limewashing of cottages the repairing of kerbs and covers to wells, the emptying of cesspools, and the frequent removal of filth and rubbish form the chief part of the daily inspection. The various public elementary schools are visited at intervals, and they have been kept in a satisfactory state. I think that all such schools should be fumigated with burning sulphur during each vacation, and that all the walls and woodwork should be washed and cleaned. Attention should be particularly paid to cleanliness in the lobbies and in the closets.

The following statement gives a summary of the work done by the sanitary Inspector during the past year :—

No. of Houses, &c., inspected	...	...	548
No. of Nuisances reported	...	...	285
No. of Nuisances abated without formal notice			248
No. of Notices served	...	...	37
Houses reported unfit for human habitation	...		8
Houses closed	...	...	2
Houses cleansed and disinfected	...	...	38
Water certificates granted for new houses	...		4
Wells dug	...	...	2
Wells cleansed	...	...	3
Cases of overcrowding abated	...	...	7
No. of samples of water analysed	...	...	10
No. of samples of water found polluted	...		3
Unwholesome food seized	...	...	none
Earth closets provided	...	...	13
Privies altered	...	...	23



## WATER SUPPLY.

Aldrington is supplied with water from a well sunk in the chalk a little to the north of Portslade Station. The situation is a good one, and the quality of the water is very good. The water is pumped into a reservoir about a quarter of a mile to the north of the well, whence public mains convey the water to the various houses, which at present lie to the eastern boundary of the parish; but as this estate is being rapidly developed, fresh supplies are being frequently laid on to houses. The supply is on the constant system. Portslade, Southwick and Kingston are supplied with water from the Shoreham Waterworks. This water is of excellent quality, and it issues at the foot of a chalk hill close to the surface of the ground. Thence it is pumped up into reservoirs, and it is distributed to the various parishes. The health of Portslade and Southwick altogether depends upon this wholesome water, because the ground about the houses is so riddled with cesspools, that no well could be found producing water fit to drink. The same waterworks also supply Lancing College by means of a pipe which is carried over the river Adur.

Lancing, or rather Lower Lancing, is the chief place in this southern part of the district which requires a good supply. Several proposals have been made, some of which were given in detail in my last annual report, but up to the present time nothing has been done.

There is no public water supply in any of the other parishes. At the foot of the chalk hills where the Upper Greensand crops out to the north there are several excellent springs, as at Steyning, Edburton and Poynings. In all the villages to the north the people depend on wells, and in a few cases on tanks. Rain water is seldom collected for drinking purposes, except in isolated houses on the Downs. The water varies much in quality, according to the soil whence it is obtained. The chalk furnishes a good supply, but the water from the Lower Greensand often contains iron. The water from wells dug in the Weald Clay is often hard and brackish, but no complaints are made by those who use it. Care is taken to see that the kerbing of the well is kept in proper repair, that the wells are cleaned out when necessary, and that no surface water enters directly.

It is not often that one finds any soakage into a well from a drain or cesspool; in most cases the direction of the flow of the underground is known, and the well is so placed as to prevent pollution. The direction of the flow in the district is generally from north-west to south-east. Ten samples of water were sent for analysis, of which three were bad; in one case the water was polluted by a leaky drain, and this was stopped; in the other two cases, a fresh supply of water was obtained.



## DRAINAGE AND SEWAGE.

At ALDRINGTON a main system of sewers has for some years been laid down on the building estate, and when a new house is erected it is properly connected. There are bye-laws in force, and the house drain connections are examined and tested before they are covered in. Complaints are sometimes made about the escape of foul air from the open manholes in the roads and streets, but at present this seems to be the only method of ventilation, as in the greater part of the district there are no high buildings or trees up which ventilating shafts could be carried from the main sewer. The system of having an intercepting chamber between the house and the sewer may be a good thing for the house, but since few people care to have a public ventilating shaft carried up their dwelling, the only means of ventilating the sewers is by the open gratings in the roads.

At PORTSLADE there is no system of drainage. The question has been discussed by the authority for many years but nothing has been done. As far back as 1877 an inquiry was held as to the drainage of this old village, but the scheme then proposed fell through on the ground of expense. Since then, the drainage of the old village has been utilised on some market gardens, and although the system is rough, the nuisance is very much abated.

Within the last thirty years there has sprung up a new Portslade, consisting of many small houses situated between the railway and the sea, and extending to the north of the railway as far as the old village. This portion is inhabited by a poor and shifting class of people, who live here because rents and rates are cheaper than at Brighton or Hove. The drainage of each house consists of a w.c. in the back yard, entered from the open air ; furnished with a long hopper pan and trap, and generally flushed by hand. The sink pipe delivers into the open air on to a trap which is connected to a drain. There are, as a rule, no closets or drains inside the houses. The drainage from each pair of such houses generally passes into a cesspool dug in the adjacent back yard, whence the contents are removed at intervals. The sub-soil is very porous, so that the contents soak into the ground and pass in a southerly direction to the sea. When one cesspool gets full, another is often dug near it, and a connection is made between the two ; in a few cases, a third cesspool has been made. There is, therefore, a sheet of filthy water about 17ft. to 20ft. below the surface of the ground always flowing southward. A few years ago, a long wall was built along the canal to the south of some of the houses, and this interfering with the sub-soil flow, causes the cesspools to fill oftener than before. Many of the cesspools are roughly ventilated by carrying up a pipe to a point above the eaves of the house, but there is no second opening, and no current of fresh air. There are a great

many difficulties in the way of draining this area, the chief one being on account of the cost. A wide canal runs between the main road and the sea, and then a loose, shingly beach has to be crossed, so that the outlay would be very considerable. These defects urgently call for a remedy. Yet in spite of all this the mortality from infectious disease is very low, much lower, in fact, than in many places which have carried out expensive schemes of drainage and sewerage.

The neighbouring parish of SOUTHWICK is in a similar condition, and any system adopted for one place would do also for the other. The death-rate here is also low.

STEYNING was drained and sewered in 1877 at a cost of £ 1,500. The system seems to answer well, but so long as there were open ventilators on the level of the road, there was more illness than before. Several years ago, large ventilating pipes were carried up at convenient points and the nuisance was abated. The sewers are flushed once a week.

HENFIELD has no main system of drainage. There is an old drain down the main street which was meant to carry off surface water, but in the course of time, people connected their house drains with it, and a good deal of dirty house water flows down it into a pond at some distance from any dwelling. There is also a similar drain which empties into some tanks on the Common which retain some of the solid materials, and which are emptied at intervals.

LOWER LANCING is increasing in size, and some building land has lately been laid out in plots ready for some more houses. The necessity for the proper drainage of this area was pointed out in detail in my annual report last year.

As for the rest of the parishes, the houses are more or less scattered, or each cottage has enough garden space on which to utilise any house drainage, and there is no place of sufficient size at present to require any special system.

## SCAVENGING AND CLEANSING.

The Sanitary Authority arranged with a contractor to remove all the ashes and house refuse from the dwellings in Portslade and Aldrington ; this was done at Portslade for the sum of £80, and at Aldrington for the sum of £50 a year. The same contractor also arranged to remove the ashes from the neighbouring town of Hove, but the authority of Hove also made it a condition that no deposit should take place within their district or within 300 yards of it. The refuse from these places was for a time deposited on some open land in Aldrington parish, about 250 yards from the

Church and about 50 yards south of a well frequented road. Many complaints were made about this heap, not only from the smell given off in damp and hot weather, but from the amount of dirty paper which was blown about by the wind on to the road and adjacent fields. No ash yard was provided. A man paid a certain sum per week to rake over the freshly deposited refuse, in case he might find anything worth his while to remove, and he also undertook to burn any paper or straw, or other combustible material. But in rough or windy weather, it was found impossible to collect such materials for burning, as the paper flew about to such long distances. One heap measured 45 yards in length by 35 yards in width, with a height varying from 1 to 10 feet.

Amongst the ashes and cinders, there was much decomposing animal and vegetable matter in a very offensive state. Cinders and ashes would cause no nuisance, but when mixed with house refuse of all sorts, such a heap will for several weeks be very noxious.

When one heap has attained sufficient size, then another is made in a different locality, so that a nuisance is always more or less present in this area. In due course the ashes and cinders are sifted or screened, and then they are used in brickmaking. The authority intend in future contracts to order the deposit to be made in open country to the north of the railway line, so that the south-west wind, which is the prevailing one, will not blow the rubbish towards any houses or main roads. After this year, a similar system will be adopted in the populous parish of Southwick.

## SUSSEX CHEMICAL WORKS.

In my last Annual Report a detailed account of these works was given. The reservoir into which the gas liquor is pumped has been covered over, and care is taken that any gases evolved in the production of sulphate of ammonia are first washed, and then passed through layers of oxide of iron. I have heard of no complaints about the manufacture for several months.

## COWSHEDS AND DAIRIES.

Regulations under the Contagious Diseases (Animals) Act, 1886 and the Dairies, Cowsheds, and Milk-shops Order of 1885 were adopted in the whole of this rural sanitary district on April 26th, 1887, and they came into force on June 1st, 1887.

There are 41 registered cowsheds and dairies, and in these there are kept about 858 cows, the number slightly varying from time to



time. In a few cases, butter only is made, and the skimmed or separated milk is either sold, given away, or used as food for pigs.

In a few cases, 30 or 40 cows are kept, and, as a rule, the larger the establishment, the better is the method of keeping the animals, and much care is taken in providing good water and good means of lighting, ventilation and drainage.

In small places, the cows are often kept in the open fields for the greater part of the year, and the cowshed is only used at night; in such cases the cowsheds require much less attention than in places where the animals are kept in covered buildings or sheds all the year round.

The sheds have been frequently inspected, and they have been well kept.

### MARGARINE ACT.

There are 45 grocers in the district, but, except in the more populous places, very little Margarine is sold. There seems to be very little demand for it in small villages or hamlets. In places where it is sold the clauses of the Act have been complied with.

### BAKEHOUSES.

There are 44 bakehouses in the district, and these have been duly inspected, and kept in a clean condition.

### SLAUGHTERHOUSES.

There are 10 slaughterhouses in the four largest parishes, and none in the smaller places. These have been often inspected, and they have been kept in a clean condition.

### COMMON LODGING HOUSES.

There is no common lodging house in this district.

### PROCEEDINGS BEFORE THE MAGISTRATES.

The owner of a row of old cottages at Lower Lancing was summoned before the Steyning Bench on Oct. 12th in respect of an order to compel him to close two houses, Nos. 5 and 6 Pond Row, as being unfit for human habitation. The proceedings were taken in consequence of a report made under Sect. 32 of the Housing of the Working Classes Act, 1890. The two houses were in a dilapidated state; the ridge of the roof had given way, the ceilings were unsafe the floors were in a shaky condition, and there was a want of proper light and ventilation. The Bench fined the owner 2s. 6d. in respect of each house, and costs, and ordered that a closing



order should be made in each case. The houses have since remained unoccupied.

### BYE-LAWS.

The Local Government Board by an Order dated the 23rd of January, 1878, invested the Authority with certain urban powers in respect of the contributory places of Aldrington, Henfield, Kingston, Lancing, Portslade, Preston, Southwick, and Steyning. These urban powers related to the laying out of new streets and the structure of new buildings, as provided by sections 157 and 158 of the Public Health Act, 1875. These bye-laws were confirmed by the Local Government Board on Sept. 29th, 1880. Last year an application was made by this Authority to put the provisions of the above sections in force within the remainder of the rural sanitary district, and an Order was made which came into operation on Jan. 26th, 1891.

Bye-laws have also been made under section 44 of the Public Health Act, 1875, for the prevention of nuisances arising from snow, filth, dust, ashes and rubbish, and for the prevention of the keeping of animals on any premises so as to be injurious to health. These bye-laws were confirmed by the Local Government Board on Feb. 21st, 1889, and they apply to the whole of the rural sanitary district.

Bye-laws were also made during the past year with respect to the licensing, registering and inspection of slaughterhouses under section 169 of the Public Health Act, 1875. These bye-laws only apply to the eight parishes mentioned above; they were adopted by the sanitary authority on Dec. 15th, 1891.

### INQUESTS.

INQUESTS were held in 21 cases:—Female, 8 months, pneumonia; male, 2 years, acute inflammation of the lungs; female 62 years, heart disease; female, 59 years, dislocation of cervical vertebra; male, 25 years, brain disease; male, 76 years, bronchitis; male, 34 years, suicide by cutting throat; male, 33 years, asphyxia; male, 33 years, accidentally suffocated; female, 50 years, accidentally burnt; male, 41 years, accidentally drowned; male, 56 years, accidentally drowned; male, 59 years, accidentally suffocated; male, 42 years, accidentally suffocated; male, 64 years, suicide by hanging; male, 6 months, accidentally suffocated; male, 45 years, accidentally drowned; male, 14 years, accidentally drowned; male, 51 years, accidental fall; female, 3 years, accidentally suffocated; female, 78 years, old age.

Two deaths were returned as “not certified” out of a total of 305 deaths:—male, 83 years, old age; male, 1 year, convulsions.

## STEYNING RURAL SANITARY DISTRICT.

TABLE 1.—Showing the Deaths at various groups of ages in the ten years, 1882-91.

Year.	At all Ages.	Under 1 Year.	1 to 5.	5 to 15.	15 to 25.	25 to 60.	60 and over.
1882.....	251	58	40	18	12	52	71
1883.....	279	58	33	21	21	66	80
1884.....	263	58	36	20	9	61	79
1885.....	260	57	34	8	12	55	94
1886.....	291	62	47	13	11	66	92
1887.....	252	45	17	17	16	64	93
1888.....	242	45	21	8	10	66	92
1889.....	213	33	21	7	10	52	90
1890.....	281	51	32	17	14	57	110
1891.....	305	63	34	11	7	71	119
Total .....	2637	520	315	140	122	610	920

TABLE 2.—Showing the Deaths and Death-rate in each of the ten years, 1882-91, from Zymotic Diseases.

YEAR.	Small Pox.	Measles.	Scarlatina.	Diphtheria.	Whoop-cough.	Con. Fevers.			Diarrhoea and Dysentery.	Rheumatic Fever.	Erysipelas.	Pyæmia.	Puerperal Fever.	TOTAL.	Rate per 1000 persons living.
						Typhus.	Enteric.	Other.							
1882	..	2	4	8	23	..	3	2	6	1	1	..	..	50	3·0
1883	..	4	7	16	3	1	7	..	7	1	..	..	..	46	2·7
1884	..	3	10	5	..	..	6	..	17	..	1	..	2	44	2·4
1885	..	3	8	2	12	2	2	..	5	1	1	..	..	36	1·9
1886	..	3	..	2	14	1	5	..	13	..	2	1	..	41	2·2
1887	..	..	1	2	..	2	3	..	16	..	1	2	..	27	1·4
1888	..	..	1	3	8	..	..	..	3	..	2	..	..	17	0·9
1889	..	..	..	3	..	..	3	..	4	3	..	1	..	14	0·7
1890	..	3	..	3	7	..	5	..	9	..	1	..	1	29	1·5
1891	..	8	..	6	8	..	1	..	6	3	..	..	..	32	1·6
Tl.	—	26	31	50	75	6	35	2	86	9	9	4	3	336	1·8

## STEYNING RURAL SANITARY DISTRICT.

TABLE 3.—Showing the Deaths and Death-rate from all causes and from various causes in the ten years, 1882-91.

LOCALITY	Deaths during the 10 years 1882-91, from					Annual Death-rate per 100,000 living from				
	Population in middle of period	All Diseases	Zymotic Disease.	Phthisis.	Lung Disease	Heart Disease	All Diseases	Zymotic Disease	Phthisis.	Lung Disease
1882.....	16700	251	50	25	20	18	1503	300	150	120
1883.....	17000	279	46	29	37	23	1641	270	170	217
1884.....	17850	263	44	30	32	24	1473	246	168	179
1885.....	18160	260	36	24	50	20	1431	198	132	275
1886.....	18300	291	41	30	41	19	1590	224	164	224
1887.....	18400	252	27	22	38	17	1369	146	120	206
1888.....	18610	242	17	21	36	28	1300	91	112	193
1889.....	18700	213	14	20	35	22	1139	75	107	187
1880.....	18810	281	29	19	47	28	1494	154	101	250
1891.....	19100	305	32	13	58	27	1597	167	68	303



(A)—Table of DEATHS during the Year 1891, in the Rural Sanitary Dis

Names of Localities adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.  (a)	MORTALITY FROM ALL CAUSES, AT SUBJOINED AGES.							(i)	1	2
	At all ages. (b)	Under 1 year. (c)	1 and under 5. (d)	5 and under 15. (e)	15 and under 25. (f)	25 and under 60. (g)	60 and up- wards. (h)		Small Pox. (i)	Scarlatina. (j)
Portslade Parish.....	69	21	9	5	1	17	16	Under 5 5 upwards.		
Aldrington Parish .....—.....	49	11	3	2	2	9	22	Under 5 5 upwards.		
Southwick Parish .....	29	7	3	—	—	10	9	Under 5 5 upwards.		
Rest of Shoreham sub-district	60	7	13	1	1	13	25	Under 5 5 upwards.		
Steyning Parish.....	25	6	1	—	—	8	10	Under 5 5 upwards.		
Henfield Parish.....	26	5	1	1	2	3	14	Under 5 5 upwards.		
Rest of Steyning sub-district	34	5	4	2	1	8	14	Under 5 5 upwards.		
Hangleton Hospital .....	4	—	1	—	1	2	—	Under 5 5 upwards.		
								Under 5 5 upwards.		
								Under 5 5 upwards.		
TOTALS .....	296	62	35	11	8	70	110	Under 5 5 upwards.		
The subjoined numbers have also to be taken										
Deaths occurring outside the District among persons belonging thereto.....	13	1	—	—	—	3	9	Under 5 5 upwards.		
Deaths occurring within the District among persons not belonging thereto.....	4	—	1	—	1	2	—	Under 5 5 upwards.		



of WEST SUSSEX, classified according to Diseases, Ages, and Localities.

MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN  
UNDER FIVE YEARS OF AGE.

4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Membranous Croup.	FEVERS.					Cholera.	Erysipelas.	Measles.	Whooping Cough.	Diarrhoea and Dysentery.	Rheumatic Fever.	Ague.	Phthisis.	Bronchitis, Pneumonia, Pleurisy.	Heart Disease.	Injuries.	All other Diseases.	TOTALS.
	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.													
								4	2	3				6			15	30
		I									2		3	5	3	4	20	30
										I				2			8	10
											I			8	6	3	16	30
									2					I			7	10
													I	5	4	2	7	10
								4	2	I				6		I	6	20
										I								
													3	8	4	2	22	40
														I			6	
													2	4	4	I	7	I
									I					I			4	
													I	3	2		14	20
I									I					I		I	5	
													3	4	4		14	20
		I												I				
I								8	8	5				18		2	51	90
		2								I	3		13	38	27	12	100	100

account in judging of the above records of mortality.

														I			—	I
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
														2		I	9	I2
																	—	I
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
		I												I			—	2

(B)—Table of POPULATION, BIRTHS, AND OF NEW CASES OF  
of Health, during the year 1891, in the Rural Sanitary District of

Names of Localities adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.	POPULATION AT ALL AGES.	Registered Births.	Aged under 5 or over 5.	NEW CASES OF COMING TO THE KNOW- OF				
	Census 1891.			1	2	3	4	5
(a)	(b)	(c)	(e)	Small Pox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.
Portslade Parish .....	4236	157	Under 5 5 upwards.			1		
Aldrington Parish .....	2206	78	Under 5 5 upwards.		2	3		
Southwick Parish .....	2558	88	Under 5 5 upwards.		1 3	1		
Rest of Shoreham sub-district	3983	91	Under 5 5 upwards.		2		1	
Steyning Parish.....	1705	37	Under 5 5 upwards.		1			
Henfield Parish .....	2006	47	Under 5 5 upwards.		3 7			
Rest of Steyning sub-district ...	2336	63	Under 5 5 upwards.		3			
Hangleton Hospital .....	.....	...	Under 5 5 upwards.			1		
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
TOTALS .....	19030	561	Under 5 5 upwards.		6 16	3 2	1	

INFECTIOUS SICKNESS, coming to the knowledge of the Medical Officer  
STEYNING ; classified according to DISEASES, AGES and LOCALITIES.

[illegible]



HORSHAM  
RURAL SANITARY DISTRICT.

---

pp. 21 et seq.

# RURAL SANITARY DISTRICT OF HORSHAM.

---

POPULATION IN 1871 .....	14,215
„ „ 1881 .....	15,426
„ „ 1891 .....	16,248
AREA IN ACRES .....	69,706
NUMBER OF HOUSES IN 1871 .....	2,781
„ „ 1881 .....	3,013
„ „ 1891 .....	3,297

## POPULATION.

The census returns for 1891 show an increase of 822 persons over those living in 1881, but the increase is less than it was in the previous decade. In the south sub-district the population is stationary. In the north sub-district there is an increase which is due entirely to the growth of Ifield. In the west sub-district there is a slight increase in each parish.

The actual figures are these :—

	1871.	1881.	1891.
South sub-district .....	3957	4083	4051
North sub-district .....	6439	7403	8017
West sub-district.....	3819	3940	4180
	<hr/>	<hr/>	<hr/>
Total	14215	15426	16248
Increase		1211	822

There are 13 parishes included in this agricultural district; in one, there has been an increase of 774 persons, while of the remainder, seven show a slight increase which is nearly met by a decrease in the other five parishes. It is interesting to note that the number of inhabited houses has increased by 284, so that there are now 4·9 persons to each house against 5·1 in 1881; it may be inferred from this fact that there is less overcrowding.

The returns for each parish give the following results :—

*South sub-district :—*

	1871.	1881.	1891.
Horsham (part) .....	755	682	555
West Grinstead .....	1344	1476	1582
Shipley .....	1147	1114	1061
Nuthurst .....	711	811	853

*North sub-district :—*

	1871.	1881.	1891.
Horsham (part) .....	1443	1996	1871
Lower Beeding .....	1246	1309	1284
Ifield.....	1639	2043	2817
Crawley .....	505	451	437
Rusper .....	599	539	548
Warnham.....	1007	1065	1060

*West sub-district :—*

Slinfold .....	796	773	853
Itchingfield .....	377	434	492
Rudgwick.....	1069	1122	1177
Billingshurst.....	1577	1611	1658

## BIRTHS AND BIRTH-RATE.

During the year 1891, the births of 467 children were registered ; of these 219 were male, and 248 were female.

Estimating the population in the middle of the year at 16,270 the birth-rate was equal to 28·7 per 1000 persons living.

This rate is higher than in any year since 1886 when it was 31·2, and a similar increase may be noted throughout the country.

The births and birth-rate during the past ten years have been as follows :

Year.	Births.	Birth-rate.	Year.	Births.	Birth-rate.
1882 ...	487	31·2	1887 ...	452	28·3
1883 ...	480	30·7	1888 ...	454	28·3
1884 ...	546	34·7	1889 ...	418	26·0
1885 ...	429	27·1	1890 ...	420	26·0
1886 ...	496	31·2	1891 ...	467	28·7

The mean number of births is 465, and the mean birth-rate is 29·2 per 1000 of population.

In England and Wales the birth-rate during the year was 31·4 per 1000 persons living, a rate 1·2 per 1000 higher than that in 1890, which was the lowest on record.

The following table shows the births and birth-rate in each locality during the past year :—

	Births.	Birth-rate.
South sub-district .....	107	26·4
Ifield Parish .....	83	29·2
Rest of North sub-district ...	152	29·2
West sub-district .....	125	29·9
Total.....	467	28·7



## GENERAL MORTALITY.

There were 248 deaths registered in this district during the year 1891, but from this number must be deducted the deaths of 8 persons in Horsham workhouse, who came from the Horsham Urban Sanitary District; the remaining 18 workhouse deaths were distributed among the several parishes whence each inmate came, viz., West Grinstead 1, Shipley 4, Nuthurst 2, Horsham 5, Ifield 2, Rusper 2, Warnham 1, Billingshurst, 1, in all, 18.

Estimating the population in the middle of the year at 16,270 the death-rate was equal to 14·7 per 1000 persons living, a rate which is slightly higher than the mean of the past ten years.

The variations in the death-rate during the past ten years have been as follows :—

Year.	Deaths.	Death-rate.	Year.	Deaths.	Death-rate.
1882	198	12·7	1887	209	13·1
1883	202	12·9	1888	219	13·6
1884	217	13·8	1889	213	13·2
1885	228	14·4	1890	210	12·9
1886	291	18·3	1891	240	14·7

Thus the mean annual number of deaths is 222·7, and the mean annual death-rate is 14·0 per 1000 of the population. During the same period there were 4649 births, so that the natural increase of population by excess of births over deaths was 2422, the births being more than twice as numerous as the deaths. In 1881 the population was 15,426; adding to this number the excess of births over deaths, there would be a population of 17,848. The actual figures at the census of 1891 were 16,248, so that a large number of persons must have left the district during the past decade.

In country places throughout England and Wales the mortality in 1891 was equal to 18·5 per 1000 of population.

In each locality the deaths and death-rate are here shown :—

	Deaths in 1891.	Death-rate in 1891.
South sub-district .....	72	15·3
Ifield Parish .....	33	11·6
Rest of north sub-district.....	80	15·4
West sub-district .....	55	13·1
Total .....	240	14·7

As the occupation and the age distribution of the population are very similar in each sub-district, the death-rate does not show much variation.

In each parish the deaths were thus distributed :—

Horsham (south).....	12	...	Crawley .....	4
West Grimstead .....	18	...	Rusper.....	14
Shipley.....	27	...	Warnham.....	15
Nuthurst .....	15	...	Slinfold.....	11
Horsham (north).....	32	...	Itchingfield .....	6
Lower Beeding .....	15	...	Rudgwick.....	14
Ifield .....	33	...	Billingshurst.....	24
Total .....				240

### INFANT MORTALITY.

The *infant mortality* is here given as measured by the number of deaths under one year of age to the total number of births in the year :—

	Births	Deaths under one year	Ratio to 1000 Births
South sub-district .....	107	13	121
Ifield Parish .....	83	5	60
Rest of North sub-district .....	152	17	112
West sub-district .....	125	5	40
Total ...	467	40	85

The 40 *infantile* deaths included one from measles, two from tuberculosis, three from meningitis, four from convulsions, eleven from lung diseases, two from enteritis, four from debility, four from marasmus and three from malformation ; six infants were born prematurely.

The ratio in the two previous years was 112 and 76.

In England and Wales the proportion of deaths under one year of age to registered births was 149 per 1000 during the past year, the mean proportion in the preceding ten years having been 142.

### ZYMOTIC MORTALITY.

The deaths from zymotic diseases were 7 in number in the case of those which are notifiable, and 9 in the other class where the number of cases cannot be obtained.

	Cases	Deaths
Small-pox .....	1	none
Scarlatina .....	51	1
Diphtheria .....	12	3
Membranous Croup.....	none	none
Fever {	Typhus .....	none
	Enteric.....	2
	Continued .....	none
	Relapsing .....	none
	Puerperal .....	1
Cholera .....	none	none
Erysipelas .....	4	none
Total		7

The fatality of scarlet fever was very small, and it was noticed that a large number of young adults suffered.

In the other class the deaths were as follows :—

	Deaths.
Measles .....	3
Whooping-cough .....	4
Diarrhoea and Dysentery .....	2
Rheumatic Fever .....	none
	<hr/>
Total	9

Adding the two classes together there is a total of 16 deaths with a zymotic mortality of 0·9 per 1000.

SCARLET FEVER. The 51 cases which were notified occurred in 22 houses. The ages of the patients are here given, as it is interesting to note the number that were attacked in youth or in adult age.

	Male.	Female.	Total.
Under one year ... ..	1	—	1
„ two years ... ..	—	—	—
„ three years ... ..	—	1	1
„ four years ... ..	1	1	2
„ five years ... ..	1	3	4
„ six years ... ..	1	1	2
„ seven years ... ..	2	2	4
„ eight years ... ..	1	2	3
„ nine years ... ..	1	2	3
„ ten years ... ..	1	3	4
From ten to fifteen years ... ..	6	6	12
„ fifteen to twenty years... ..	4	3	7
„ twenty to twenty-five years ... ..	—	2	2
„ twenty-five to thirty years ... ..	1	—	1
„ thirty to forty years ... ..	1	1	2
„ forty to fifty years ... ..	2	1	3
TOTAL		23	28
			51



Scarlet fever is generally considered a disease of childhood, but the above figures show that 27 out of 51 cases were over ten years of age, and 15 of these were over fifteen years of age. None of the patients had been protected by an attack in early life. All the cases were mild in character and there was only one death of an adult male. In January there were eight cases in four houses situated many miles apart; in April, there were five cases in one house; in June, one case in a house; in September and in the three following months there were thirty-seven cases in sixteen houses. In two instances, the disease was imported from London and in one instance it came from Lewes. A young man was taken ill at Lewes on August 21st, and he came to his home, a public house, on September 9th, when he was said to be recovering from influenza and rheumatic fever; he was peeling freely, and inquiry left no doubt that he really had a recent attack of scarlatina. On September 21st, his cousin, living in the same house, was attacked, and on October 4th and October 7th, two other inmates fell ill. Two dance parties were held in the house while the first two cases were peeling, and the patients, unconscious of their infective condition, joined in the dancing. The cases were mild and no medical men had been called in. The consequence was that the disease spread in the neighbourhood, and several young people were attacked.

At another public house a child was poorly with a sore throat from August 29th, until September 7th, at which time her aunt noticed that her hands were peeling; on September 26th, the aunt had a sore throat, but it was not followed by any rash. On October 6th the aunt's child had a sore throat and a rash; a medical man was then for the first time called in, and he notified the case as one of scarlatina. There was no further spread of the disorder, but these instances show how difficult it is to prevent scarlet fever breaking out, when the initial cases have no idea of their infective condition.

In the 22 houses there were 83 inmates other than the 51 who were attacked. Their distribution was as follows.

		Parents.		Single Adults.		Children.		Total.
Male	...	17	...	15	...	12	...	44
Female	...	20	...	4	...	15	...	39
Total	...	37	...	19	...	27	...	83
<i>Cases of Fever:—</i>								
Male	...	3	...	11	...	9	...	23
Female	...	3	...	10	...	15	...	28
<i>Total Inmates:—</i>								
Male	...	20	...	26	...	21	...	67
Female	...	23	...	14	...	30	...	67
Total, both sexes		43	...	40	...	51	...	134

SMALL-POX.—One case was notified of a person who had been vaccinated in infancy ; there was no history of infection, and there was no spread of the disorder.

## WATER SUPPLY.

There is no place in this district which has a public supply of water. The public reservoir for Horsham is situated near the Workhouse, and in dry weather, water from this source is supplied to houses in its neighbourhood. The usual source of water is from wells varying in depth from 15 or 20 feet to 100 feet. The depth of the wells in the Weald clay is very uncertain; sometimes water can be readily obtained within a short distance, but very often none can be found even when a well is sunk for 100 feet or more. It sometimes happens that by deepening a well, the original source is lost ; this arises from the fact that the impervious rocky or clayey bed which held up the water has been dug or bored through, and then the water runs away into the porous bed beneath until a fresh impervious bed is met with. Many people collect the rain water for domestic purposes, but very few use it for drinking or cooking.

In a few instances, as in the case of large houses, the water is pumped up into a large tank, and it is thence distributed to cottages near. A very common source of water is a land spring or dipping hole ; such water is very liable to become dirty in wet weather from clayey or suspended matters, but even then it is generally preferred to well water. I have even known cases where, when a well providing good water has been provided, the cottagers will still go to the old dipping hole. The reason is that the well water is much harder than the other, and this is of value for cooking and domestic use. It is worth noting that those living in the Weald district always boil the water before using it ; no woman ever thinks of giving a child 'raw' water. Filters are unknown, but this simple way of sterilizing water has been in use for years.

The water supply of the district is on the whole good, and it is very rare to find any illness which can be attributed to water.

## DRAINAGE.

Ifield and Crawley are the only places which have a main system of sewage. In all the other villages the houses are so scattered and isolated that no main system is required. Warnham has a drain which deals with the drainage of a few houses, the sewage being taken on to a small piece of land where it is dealt with in a rough way of irrigation.



To the great majority of cottages there is an ample garden, and any dirty house water can be utilised if due care be given by the occupiers. The closets are usually at some distance from the house, and a modified kind of privy is in general use, so constructed that it must be often cleaned, while sunlight and rain are kept out, and plenty of fresh air can pass through. In some places earth closets are in use, but they are not frequently met with.

## IFIELD AND CRAWLEY DRAINAGE.

The main system of sewage continues to answer very well, but as there is no public supply of water, the closets require to be hand-flushed. In nearly every case, the closet is erected in the garden at the back of the house; it is furnished with a long or short hopper pan and trap. The sink pipe delivers in the open air on to a gully trap in connection with the drain. There is a marked improvement in the sanitary surroundings of the houses since these changes were carried out, and since the old privies have been altered, or new ones built. Very few houses have inside closets, and in these, some special means of flushing is provided, by means of a tank into which water is pumped. Great care was taken, when the main sewers were laid down, to exclude storm water, but nevertheless a good deal finds its way from the roofs and yards when there is a heavy rainfall.

The condition of the outfall was very unsatisfactory at the commencement of the year. The sewage farm consists of  $8\frac{1}{2}$  acres of land. Beneath the top layer of mould there is a very retentive layer of white loam from 15 to 20 inches thick. So impervious is this layer that when holes were dug in it, and water was poured in, none of the liquid escaped. About one acre of this land has hitherto been used, and the loam was dug up so as to reach a porous bed beneath. The loam was spread over the acre, and broken up with the surface soil, but in a short time, the surface became nearly impervious, and a large sheet of stagnant sewage was exposed to view. Some of this flowed into a ditch in a very impure condition, and after pursuing a tortuous course through some open country, it caused a nuisance as it flowed along, because so much dirty matter was deposited at the bottom and on the sides of the ditches. If there had been a large stream into which this effluent could have passed at once, such a nuisance might have been unnoticed, but when it entered a ditch which was nearly empty in dry weather, the liquid soon began to putrefy and to become offensive.

To remedy this evil, seven large pits were made in the retentive soil which acted as subsiding tanks, the sewage flowing through each tank in succession, whereby most of the suspended matters



are arrested. The effluent then passes over a portion of the land and then it flows along the open ditches without causing any marked nuisance. The original acre which was covered with weeds has been dug up and sown with rye grass. In future, steps will be taken to apply the sewage to the farm in a more systematic manner, and to purify it by means of growing crops.

## SYSTEMATIC INSPECTION.

The various parts of this district have been frequently visited during the past year, and the amount of work done is summarised in the Sanitary Inspector's report which is given below.

The greater part of the nuisances have, as usual, been abated without any formal notice being required.

The amount of work recorded by the Sanitary Inspector is shown in the following summary :—

No. of Houses, etc., inspected...	...	...	826
„ Nuisances reported	...	...	368
„ „ abated without notice	...	...	206
„ „ „ with notice	...	...	162
No. now in course of abatement	...	...	10
Houses reported as unfit for human habitation			2
„ cleansed and disinfected	...	...	33
„ „ „ limewashed	...	...	69
Water certificates granted for new houses	...	...	23
Wells dug	...	...	15
Tanks provided	...	...	6
Water laid on from Horsham waterworks	...	...	11
Wells closed	...	...	4
Wells cleaned out	...	...	10
Number of samples of water analysed	...	...	15
„ „ „ found polluted	...	...	3
Cases of overcrowding reported	...	...	8
„ „ „ abated	...	...	8
Unwholesome food seized	...	...	none
Legal proceedings	...	...	none
New closets erected	...	...	17
Old closets converted into earth closets	...	...	9
„ provided with proper cesspits	...	...	13
Houses connected with Ifield and Crawley main sewer	...	...	12
Number of visits to cowsheds and dairies	...	...	102

## COWSHEDS AND DAIRIES.

There are 47 registered cowsheds and dairies, and in these about 646 cows are kept, but the number varies slightly from time to time. Many of these sheds contain from 40 to 80 cows on a farm, and they are very well kept, care being taken that there is an ample supply of good water, plenty of light and ventilation, frequent removal of refuse and cleansing of the walls and floor.

The cows in many cases are kept in the open field for the greater part of the year, the cowsheds being used at night.

The sheds have been frequently inspected, and they have been well kept.

## MARGARINE ACT.

Very little margarine is sold here by the grocers, and where it can be obtained the regulations of the Act have been complied with. There seems to be no demand for this substance on the part of the scattered agricultural population.

## BAKEHOUSES.

These are 36 in number ; they have been often inspected, and they have been well kept. There is no bakehouse on a large scale, and the chief duty is to see that they are frequently cleansed and limewashed. In each case there is a good amount of light and air, and in no case is there any drain within the building.

## SLAUGHTERHOUSES.

These are 14 in number, and they are very well kept, as regards cleanliness and removal of refuse. In many instances animals are only killed once or twice a week, so that there is no difficulty in keeping them clean and tidy. Each slaughterhouse is often limewashed, and the blood is generally removed at once for use in a garden.

## INQUESTS.

INQUESTS were held in nine cases :—Female, 38 years, flooding after labour ; male, 42 years, suicide by drowning ; male, 20 days, convulsions ; female, 57 years, heart disease ; male, 2 years, accidentally burnt ; male, 13 years, accidentally drowned ; female, 1 month, inflammation of the lungs ; male, 50 years, accidentally knocked down by a bicycle ; female, 38 years, accidental fall downstairs.

Nine deaths were returned as ‘not certified’ out of a total of 240 deaths :—male, 2 hours, premature birth ; female, 21 hours, convulsions ; male, 82 years, apoplexy, old age ; female, 53 years, cancer ; female, 21 years, broncho-pneumonia ; male, 58 years, tuberculosis ; male, 73 years, bronchitis ; male, 21 hours, prematurely born ; female, 67 years, cancer.

No proceedings were taken before the Magistrates during the year.

There is no common lodging house in the district.

Eight cases of overcrowding were abated during the year, and in each case one or more of the inmates left the cottage after due notice had been given.



## HORSHAM RURAL SANITARY DISTRICT.

TABLE 1.—Showing the Deaths at various groups of ages in the ten years, 1882-91.

Year.	At all Ages.	Under 1 Year.	1 to 5.	5 to 15.	15 to 25.	25 to 60.	60 and over.
1882.....	198	41	15	14	12	46	70
1883.....	202	32	15	9	8	61	77
1884.....	217	38	18	14	18	49	86
1885.....	228	38	31	12	14	45	88
1886.....	291	61	51	20	14	48	97
1887.....	209	46	15	12	8	45	83
1888.....	219	37	16	13	14	53	86
1889.....	213	32	17	20	12	36	96
1890.....	210	47	11	11	12	47	82
1891.....	240	40	27	10	11	45	107
Total .....	2227	412	216	135	117	475	872

TABLE 2.—Showing the Deaths and Death-rate in each of the ten years, 1882-91, from Zymotic Diseases.

YEAR.	Small Pox.	Measles.	Scarlatina.	Diphtheria.	Whoop-cough.	Con. Fevers.			Diarrhoea and Dysentery.	Rheumatic Fever.	Erysipelas.	Pyæmia.	Puerperal Fever.	TOTAL.	Rate per 1000 persons living.
						Typhus.	Enteric.	Other.							
1882	...	3	1	5	2	...	1	1	1	1	2	...	...	17	1'0
1883	...	2	1	...	5	...	1	...	2	1	3	...	2	17	1'0
1884	...	...	...	10	...	1	1	...	5	...	...	1	...	18	1'1
1885	...	...	1	12	5	...	...	1	3	...	1	...	...	23	1'4
1886	123	3	4	4	15	...	...	...	8	...	...	...	...	54	3'2
1887	...	...	4	4	...	...	2	2	5	...	...	...	...	17	1'0
1888	...	...	1	...	5	...	...	...	5	...	2	1	...	14	0'8
1889	...	...	...	1	4	...	...	...	1	2	...	...	...	8	0'4
1890	...	4	1	2	4	1	1	...	2	...	...	...	...	15	0'8
1891	...	3	1	3	4	...	2	...	2	...	...	...	1	16	0'9
Tl.	135	13	41	44	44	2	8	4	34	4	8	2	3	199	1'2



(A)—Table of DEATHS during the Year 1891, in the Rural Sanitary District

Names of Localities adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.  (a)	MORTALITY FROM ALL CAUSES, AT SUBJOINED AGES.							(i)	1		2
	At all ages. (b)	Under 1 year. (c)	1 and under 5. (d)	5 and under 15. (e)	15 and under 25. (f)	25 and under 60. (g)	60 and upwards. (h)		Small Pox. (i)	Scarlatina. (j)	
South sub-district .....	65	13	11	3	3	12	23	Under 5 5 upwards.			
Ifield Parish .....	33	5	5	2	1	9	11	Under 5 5 upwards.			
Rest of North sub-district ...	70	17	10	4	—	9	30	Under 5 5 upwards.			
West sub-district .....	54	5	1	1	7	13	27	Under 5 5 upwards.		1	
Horsham Workhouse .....	26	—	—	—	—	4	22	Under 5 5 upwards.			
								Under 5 5 upwards.			
								Under 5 5 upwards.			
								Under 5 5 upwards.			
								Under 5 5 upwards.			
								Under 5 5 upwards.			
TOTALS .....	248	40	27	10	11	47	113	Under 5 5 upwards.		1	

The subjoined numbers have also to be taken in

Deaths occurring outside the District among persons belonging thereto.....	—	—	—	—	—	—	—	Under 5 5 upwards.			
Deaths occurring within the District among persons not belonging thereto.....	8	—	—	—	—	2	6	Under 5 5 upwards.			



of HORSHAM classified according to Diseases, Ages, and Localities.

MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN  
UNDER FIVE YEARS OF AGE.

[illegible]

unt in judging of the above records of mortality.

[illegible]

(B)—Table of POPULATION, BIRTHS, AND OF NEW CASES OF  
of Health, during the year 1891, in the Rural Sanitary District of

Names of Localities adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.  (a)	POPULATION AT ALL AGES.  Census 1891.  (b)	Registered Births.  (d)	Aged under 5 or over 5.  (e)	NEW CASES OF COMING TO THE KNOW OF				
	(b)			(d)	(e)	1 Small Pox.	2 Scarlatina.	3 Diphtheria.
South sub-district .....	4051	107	Under 5 ..... 5 upwards.		13	2		
Ifield Parish .....	2840	83	Under 5 ..... 5 upwards.	1				
Rest of North sub-district .....	4995	145	Under 5 ..... 5 upwards.		9 22	5		
West sub-district .....	4180	125	Under 5 ..... 5 upwards.		7	5		
Horsham Workhouse .....	182	7	Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
TOTALS .....	16248	467	Under 5 ..... 5 upwards.	1	9 42	12		

FECTIONOUS SICKNESS, coming to the knowledge of the Medical Officer  
 ORSHAM ; classified according to DISEASES, AGES and LOCALITIES.

[illegible]

compulsory in the District.



PETWORTH  
RURAL SANITARY DISTRICT.

---

pp. 39 et seq.

## RURAL SANITARY DISTRICT OF PETWORTH.

---

POPULATION IN 1871 .....	10,147
„ „ 1881 .....	9,549
„ „ 1891 .....	9,431
AREA IN ACRES .....	45,701
NUMBER OF HOUSES IN 1871 .....	2,008
„ „ 1881 .....	1,995
„ „ 1891 .....	2,001

### POPULATION.

The census returns show a decrease of 164 persons. The decline is less than in the previous decade, when it was 552.

This may partly be accounted for by the closing of Petworth Gaol in 1879. Between 1861 and 1871 there was a very slight increase, but since then, owing probably to the agricultural depression, a steady fall has taken place. In five parishes, all of which are in the South sub-district there has been a slight rise; in the remaining 9 parishes there has been a diminution. There are eight more inhabited houses now than in 1891, so that there is probably less overcrowding than in previous periods, and this fact tends to show that while the old people remain to work on the soil, the young adults leave home to seek employment elsewhere. Thus the birth-rate is lower than usual, and from the excess of aged people in the district, the death-rate is slightly raised.

In the northern parishes, which are of large area and which contain a very scattered population, the customs and manners of the people seem to be the same as those which must have prevailed at the beginning of the century. A new cottage is now and then built to replace an old one; or a farmhouse is converted into a pair of cottages. Along the northern area of the Weald there is much of interest for those who care to see what village life was many years ago.

The changes in the population during the past twenty years are here shown, and they correspond closely to the changes taking place in the neighbouring district of Thakeham, which contains a population of a similar character as regards mode of living and occupation.

	1871.	1881.	1891.
North sub-district .....	4354	4160	4019
Petworth Parlsch .....	3304	2942	2867
Rest of South sub-district	2489	2493	2545
Total	10147	9595	9431

The following figures show the variations which have taken place in each parish during the same period of time.

*North sub-district:—*

	1871.	1881.	1891.
Wisborough Green .....	1756	1656	1629
Northchapel .....	802	794	742
Kirdford .....	1796	1710	1648

*South sub-district:—*

Petworth .....	3304	2942	2867
Egdean .....	80	76	75
Fittleworth .....	695	696	761
Stopham .....	145	146	151
Coates .....	94	61	84
Burton .....	67	73	57
Duncton .....	262	268	259
Barlavington.....	132	182	175
Sutton .....	331	310	325
Bignor .....	150	154	127
Bury .....	533	517	531

## BIRTHS AND BIRTH-RATE.

During the year 1891, the births of 251 children were registered ; of these, 126 were male, and 125 female.

Estimating the population in the middle of the year at 9431, the birth-rate was equal to 26·6 per 1000 person living.

The births and birth-rate during the last ten years have been as follows :—

Year.	Births.	Birth-rate.	Year.	Births.	Birth-rate.
1882 ...	275	28·9	1887 ...	264	27·6
1883 ...	262	27·5	1888 ...	240	25·1
1884 ...	304	31·8	1889 .	263	27·5
1885 ...	246	25·7	1890 ...	223	23·5
1886 ...	284	29·7	1891 ...	251	26·6



The mean number of births is 261·2, and the mean birth-rate is 27·4 of the population.

In England and Wales the birth-rate during the year was 31·4 per 1000 persons living, a rate 1·2 per 1,000 higher than that in 1890, which was the lowest on record.

The following table shows the births and birth-rate in each locality during the past year :—

	Births.	Birth-rate.
North sub-district .....	108	26·9
Petworth Parish .....	76	26·5
Rest of South sub-district .....	67	26·3
<b>TOTAL</b>	<b>251</b>	<b>26·6</b>

### GENERAL MORTALITY.

There were 153 deaths registered in this district in the year 1891; of these, six took place in Petworth workhouse, three in Wisborough Green workhouse, and one in Petworth cottage hospital. These deaths have been distributed amongst the several parishes whence each inmate came.

Estimating the population in the middle of the year at 9431, the death-rate was equal to 16·2 per 1000 persons living.

The variations in the death-rate during the past ten years have been as follows :

Year.	Deaths.	Death-rate.	Year.	Deaths.	Death-rate.
1882 ...	125	13·1	1887 ...	131	13·7
1883 ...	171	18·0	1888 ...	143	14·9
1884 ...	140	14·6	1889 ...	142	14·8
1885 ...	155	16·2	1890 ...	136	14·3
1886 ...	202	21·1	1891 ...	153	16·2

Thus there have been during the above period 1498 deaths and a mean mortality of 15·7 per 1000. During the same period there were 2612 births, so that the natural increase of population by excess of births over deaths was 1,114.

The recent census returns, however, show that there has been a *decrease* of 164, so that a large number of persons must have left this district during the last decade. Young adults migrate elsewhere for employment, and this exodus leaves an excessive amount of aged people in this area. As a consequence of this excess at advanced ages, the death-rate is raised about 2·0 per 1000 beyond the rate of a standard population. Contrary to the general rule, there are more males than females living in this district, and that slightly raises the mortality, as the male death-rate is higher than the female death-rate.

In each locality the deaths and death-rate were as follows :

	Deaths in 1891.		Death-rate in 1891.
North sub-district .....	58	...	14·4
Petworth Parish .....	61	...	21·3
Rest of South sub-district .....	34	...	13·3
<hr/>			
TOTAL	153	...	16·2

In country parishes throughout England and Wales the mortality in 1891 was equal to 18·5 per 1000 of population.

It is easy to compare the death-rate of Petworth before and after the carrying out of a water supply. The new scheme for a water supply was begun in 1882, and the various houses were supplied in 1883. In the eight years 1875-82, the mean annual death-rate from all causes was 16·74 per 1000, while in the eight years, 1884-91, the mean annual death-rate was 17·07 per 1000.

In the year 1884, about one-third of the houses had been connected with the new sewer, which was finished in 1880, but which was not much used until 1884, as no means for water flushing were provided until the water supply had been made complete.

In each parish the deaths were thus distributed :—

Wisborough Green ...	19	...	Coates .....	1
Northchapel .....	15	...	Burton .....	1
Kirdford .....	24	...	Duncton.....	2
Petworth .....	61	...	Barlavington .....	none
Egdean .....	1	...	Sutton.....	5
Fittleworth .....	11	...	Bignor .....	2
Stopham .....	4	...	Bury .....	7
Total		...	153	

### INFANT MORTALITY.

The *infant mortality* is here given as measured by the number of deaths under one year of age to the total number of births in the year :—

	Births.	Deaths under one year.	Ratio to 1000 Births.
North sub-district .....	108	10	92
Petworth Parish.....	76	14	184
Rest of South sub-district.....	67	6	89
<hr/>			
Total	251	30	119

The 30 *infantile* deaths included three from whooping-cough, two from convulsions, twelve from lung diseases, six from debility, and one from marasmus ; one infant was accidentally suffocated, and five infants were born prematurely.

## ZYMOTIC MORTALITY.

There were 10 deaths from zymotic diseases of which 2 were among notifiable diseases and 8 in the other class. The rate of mortality was, therefore, equal to 1.06 per 1000.

	Cases.	Deaths.
Small-pox .....	none	none
Scarlatina .....	10	none
Diphtheria ...—.....	20	2
Membranous Croup.....	none	none
Fever: {	Typhus .....	none
	Enteric .....	none
	Continued .....	none
	Relapsing.....	none
	Puerperal .....	none
Cholera.....	none	none
Erysipelas.....	14	none
Total		2

There was no death from scarlet fever, and the mortality from diphtheria was much lower than in most of the other districts.

The deaths in the other classes were as follows :—

	Deaths.
Measles .....	none
Whooping Cough .....	8
Diarrhoea and Dysentery .....	none
Rheumatic Fever .....	none
	—
Total	8

The Infectious Disease (Notification) Act 1889 came into operation in this district on Feb. 2, 1891.

One case of scarlet fever was removed to Flathurst Cottage Hospital during the year.

## WATER SUPPLY.

Petworth is the only town which has a public supply of water. The work was carried out in 1882 and in 1883, and a full description of the scheme is given in my Annual Report for those years.

The water issues from a spring to the south of the town in the Lower Greensand beds ; it is abundant, and of excellent quality. From the spring it is pumped up to a reservoir on some high ground near the Cottage Hospital, whence mains distribute it all over the town. The water is soft, and well fitted for all domestic purposes. The cost of taking water from the Haslingbourne spring, of providing a pumping engine, a reservoir, and of laying mains to the town etc., amounted to £2500, and it was all borne



by Lord Leconfield. The distribution of the water pipes through the streets, and the annual charge of maintenance are paid for out of the rates. In other parts of the district no public supply is required as the houses are too scattered.

Shallow wells, tanks for receiving rain water and dipping holes are the most common sources of water supply. Such water is generally of fair quality for domestic purposes, and the habit of always boiling such water before it is used for drinking, is very common in the district. In very dry seasons, there is often a scarcity of water in some of the clay districts, and then water has to be brought in casks or barrels from some convenient source.

### DRAINAGE AND SEWAGE.

Petworth is the only town which has a main system of sewerage ; a public scheme was carried out in 1880, and the house connections were made in 1884. The houses are nearly all properly connected, each being furnished with an out-door closet having a hopper pan and flushed by a small cistern supplied from the water mains. By the adoption of a good water and drainage system, the town is now adequately provided with a good method of carrying off all solid and liquid refuse at once to a distant point. In this way numbers of minor nuisances were abated, cesspools were filled up, and the sanitary surroundings of the houses were improved. There are two outfalls for the sewage, one to the north, and one to the south of the town. The sewage is utilised on the land in a somewhat rough manner, but in such a way as not to cause a nuisance, although no doubt some of the sewage escapes into open ditches without efficient purification.

It would still further improve the town if the sanitary authority undertook to deal with all the scavenging and cleansing arrangements of back yards, courts, ash-pits, etc., so that a more complete and systematic removal could be effected.

### SYSTEMATIC INSPECTION.

This district contains a very scattered population, and therefore no main system of drainage is required in any place except Petworth which was sewered in 1880.

Farmhouses and cottages are scattered all over the area, and each dwelling, as a rule, has plenty of garden ground on which any excreta can be utilised. The common nuisances constantly arising are due to want of cleanliness, and to the accumulation of liquid refuse in ditches near the dwelling. Very few earth closets are in use, and the method most in vogue is to have a small cess-pit, lightly covered over with a lean-to lid so as to exclude light, heat and rain, while it allows plenty of ventilation. Such a cess-pit, must often have its contents removed, or it becomes a nuisance.

In the north part of the district where there is much clay, it is not easy to use the house water among growing crops. Often small cesspits are provided, or a few houses, if near together, drain into a common tank whence the contents are used on the adjacent land at intervals. Most of the houses belong to large landowners and they are kept in a very orderly condition. The wages are low, but rents also are low, and a large piece of garden with a few fruit trees, and a pig-stye is generally found with each cottage. Some of the houses are very old, but then they are very often warmer and more comfortable than modern ones. The old-fashioned hearth and fire-place with a large open chimney is frequently seen, but this arrangement leads to a great waste of heat. It is very rare to find a drain inside a cottage, so that the inmates live without any danger of foul air entering the dwelling.

The houses built on the clay are cold and draughty in the winter; the bye-roads are dirty and very muddy, so that the children who have a long way to go to school are exposed to damp and cold.

Most of the nuisances met with are of a minor character, and they are abated without formal notice. The following list is a summary of the sanitary inspector's work during the year.

No. of houses visited	...	...	...	...	140
„ nuisances reported	...	...	..	...	120
„ „ abated	...	...	...	...	110
„ notices served	...	...	...	...	36
Houses reported unfit for habitation	...	...	...	...	none
„ cleansed and disinfected	...	...	...	...	15
„ „ „ limewashed	...	...	...	...	21
Cases of overcrowding reported	...	...	...	...	1
„ „ abated	...	...	...	...	none
New closets erected	...	...	...	...	5
Old closets converted	...	...	...	...	20
Earth closets made	...	...	...	...	1
Wells sunk	...	...	...	...	none
Wells cleansed	...	...	...	...	4
Unwholesome food seized	...	...	...	...	none
Samples of water collected for analysis	...	...	...	...	4
No. of infectious cases removed to Flathurst	...	...	...	...	1
„ Cottage	...	...	...	...	1
Nature of such infectious illness	...	...	...	...	scarlet fever

#### MARGARINE ACT.

Very little margarine is sold here by the grocers, and where it can be obtained the regulations of the Act have been compiled with. There seems to be no demand for this substance on the part of the scattered agricultural population.

## BAKEHOUSES.

These have been often inspected, and they have been well kept. There is no bakehouse on a large scale, and the chief duty is to see that they are frequently cleansed and limewashed. In each case there is a good amount of light and air, and in no case is there any drain within the building.

## COWSHEDS AND DAIRIES.

These are in most cases very well kept, care being taken that there is an ample supply of good water, plenty of light and ventilation, frequent removal of refuse and cleansing of the walls and floors.

## SLAUGHTERHOUSES.

These are very well kept as regards cleanliness and removal of refuse. In many instances animals are only killed once or twice a week, so that there is no difficulty in keeping them clean and tidy. Each slaughterhouse is often limewashed, and the blood is generally removed at once for use in a garden.

No proceedings were taken before the Magistrates during the year.

There is one common lodging house in the district and this has been kept clean.

No cases occurred in which it was necessary to condemn meat or any other article of food.

## RAINFALL.

The amount of rainfall during the year was taken daily by the Rev. C. Holland, Petworth Rectory, who has kindly allowed me to use his tables :—

Month.	Total depth in inches.	No. of rainy days.	Rainfall in 1890.
January .....	4·15	9	4·51
February.....	0·02	1	1·20
March.....	2·87	12	1·79
April .....	1·12	12	3·09
May .....	2·59	18	1·95
June .....	1·71	10	3·24
July.....	2·29	11	4·03
August .....	7·86	20	2·93
September .....	1·07	13	1·70
October .....	8·62	21	1·26
November .....	4·56	15	2·87
December .....	5·29	22	0·73
Total .....	42·15	164	29·30



The rain guage is placed 18ft. 4in. above the ground and 190ft. above the sea level ; diameter of funnel 5in.

Grouping the rainfall for the previous fifteen years into three periods of five years each, it will be seen that the rainfall for 1891 was in excess of the average. It exceeded by 12·85 inches the rainfall for 1890, and it was higher than in any year since 1880.

Period.	Rainfall in inches.	Mean of 5 years.
1876-80 .....	205·35 .....	41·07
1881-85 .....	166·33 .....	33·27
1886-90 .....	159·69 .....	31·94
<b>Total .....</b>	<b>531·37</b>	<b>35·42</b>

The rainfall in 1891 was very unevenly distributed ; the first half of the year was very dry, especially in February, April and June, and only 12·46 in. of rain were measured up to the end of June ; in the second half of the year, 29·69 in. of rain fell, the highest amount being measured in August and October.

### INQUESTS.

INQUESTS were held in twelve cases :—Female, 4 weeks, accidentally suffocated ; male, 64 years, suicide by taking laudanum ; male, 4 months, convulsions ; male, 9 years, accidentally drowned ; female, 38 years, flooding after labour ; male, 2 years, accidental fall downstairs ; female, 7 years, accidentally drowned in a well ; male, 27 years, accidental fall from a ladder ; male, 66 years, heart disease ; male 1 year, accidentally burnt ; male, 2 months, whooping cough ; female, 80 years, accidental fall.

There were no deaths returned as “not certified” out of a total of 153 deaths.



## PETWORTH RURAL SANITARY DISTRICT

TABLE 1.—Showing the Deaths at various groups of ages in the ten years, 1882-91.

Year.	At all Ages.	Under 1 Year.	1 to 5.	5 to 15.	15 to 25.	25 to 60.	60 and over.
1882.....	125	17	8	6	8	31	55
1883.....	171	25	13	6	6	41	80
1884.....	140	19	10	8	8	29	66
1885.....	155	20	16	5	8	34	72
1886.....	202	27	18	9	9	46	93
1887.....	131	16	8	6	9	29	63
1888.....	143	21	10	7	7	30	68
1889.....	142	24	7	7	7	37	60
1890.....	136	14	4	3	7	32	76
1891.....	153	30	17	8	7	21	70
Total .....	1498	213	111	65	76	330	703

TABLE 2.—Showing the Deaths and Death-rate in each of the ten years, 1882-91, from Zymotic Diseases.

YEAR.	Small Pox.	Measles.	Scarlatina.	Diphtheria.	Whoop-cough.	Con. Fevers.			Diarrhoea and Dysentery.	Rheumatic Fever.	Erysipelas.	Pyæmia.	Puerperal Fever.	TOTAL.	Rate per 1000 persons living.
						Typhus.	Enteric.	Other.							
1882	...	...	...	1	3	...	...	...	3	...	1	...	...	8	0·8
1883	...	...	1	...	1	...	2	...	2	1	2	...	...	9	0·9
1884	...	...	...	2	1	...	...	...	...	...	...	2	...	5	0·5
1885	...	...	...	4	2	...	2	...	1	...	1	...	...	10	1·0
1886	...	2	1	4	5	...	4	...	1	...	1	...	...	18	1·8
1887	...	...	1	1	...	...	...	...	2	...	...	...	...	4	0·4
1888	...	...	...	7	2	...	1	...	1	...	1	...	...	12	1·2
1889	...	2	...	2	1	...	1	...	1	...	...	...	...	7	0·7
1890	...	...	...	...	...	...	1	...	1	...	...	...	...	2	0·2
1891	...	...	...	2	8	...	...	...	...	...	...	...	...	10	1·0
Tl.		4	3	23	23		11		12	1	6	2		85	0·9

## PETWORTH RURAL SANITARY DISTRICT.

TABLE 3.—Showing the Deaths and Death-rate from all causes and from various causes in the ten years, 1882-91.

YEAR	Deaths during the 10 years 1882-91, from					Annual Death-rate per 100,000 living from				
	Population in middle of period	All Diseases	Zymotic Disease.	Phthisis.	Lung Disease	Heart Disease	All Diseases	Zymotic Disease	Phthisis.	Lung Disease
1882.....	9500	125	8	12	17	12	1315	84	126	179
1883.....	9500	171	9	15	26	18	1800	94	158	273
1884.....	9550	140	5	14	20	22	1466	52	146	209
1885.....	9550	155	10	15	25	8	1623	104	156	261
1886.....	9550	202	18	18	30	17	2115	188	188	314
1887.....	9550	131	4	16	23	17	1371	42	167	241
1888.....	9550	143	12	14	13	15	1497	125	146	136
1889.....	9550	142	7	12	26	19	1487	73	125	272
1890.....	9500	136	2	10	25	15	1431	21	105	262
1891.....	9431	153	10	13	31	15	1622	106	138	329

(A)—Table of DEATHS during the Year 1891, in the Rural Sanitary District.

Names of Localities adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.  (a)	MORTALITY FROM ALL CAUSES, AT SUBJOINED AGES.							(i)			
	At all ages. (b)	Under 1 year. (c)	1 and under 5. (d)	5 and under 15. (e)	15 and under 25. (f)	25 and under 60. (g)	60 and upwards. (h)		1 Small Pox.	2 Scarlatina.	3 Diphtheria.
North sub-district .....	54	10	7	3	—	6	28	Under 5 ..... 5 upwards.			
Petworth Parish.....	56	12	6	4	3	8	23	Under 5 ..... 5 upwards.			
Rest of South sub-district ...	33	6	4	1	2	6	14	Under 5 ..... 5 upwards.			1 ..... 1
Petworth Workhouse .....	6	2	—	—	1	1	2	Under 5 ..... 5 upwards.			
Wisborough Green Workhouse	3	—	—	—	—	—	3	Under 5 ..... 5 upwards.			
Petworth Cottage Hospital ...	1	—	—	—	1	—	—	Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
TOTALS .....	153	30	17	8	7	21	70	Under 5 ..... 5 upwards.			1 ..... 1

The subjoined numbers have also to be taken into

Deaths occurring outside the District among persons belonging thereto.....	—	—	—	—	—	—	—	Under 5 ..... 5 upwards.			
Deaths occurring within the District among persons not belonging thereto.....	—	—	—	—	—	—	—	Under 5 ..... 5 upwards.			



of PETWORTH classified according to Diseases, Ages, and Localities.

MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN  
UNDER FIVE YEARS OF AGE.

4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Membranous Croup.	FEVERS.					Cholera.	Erysipelas.	Measles.	Whooping Cough.	Diarrhoea and Dysentery.	Rheumatic Fever.	Ague.	Phthisis.	Bronchitis, Pneumonia, Pleurisy.	Heart Disease.	Injuries.	All other Diseases.	TOTALS.
	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.													
									1					6		2	8	17
													1	4	6	3	23	37
									6					6		1	5	18
													6	5	3	2	22	38
									1					2			6	10
													5	5	5		7	23
														2				2
														1	1		2	4
																	3	3
													1					1
									8					16		3	19	47
													13	15	15	5	57	106

account in judging of the above records of mortality.



(B)—Table of POPULATION, BIRTHS, AND OF NEW CASES OF  
of Health, during the year 1891, in the Rural Sanitary District of

Names of Localities adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.  (a)	POPULATION AT ALL AGES.  Census 1891.  (b)	Registered Births.  (d)	Aged under 5 or over 5.  (e)	NEW CASES OF COMING TO THE KNOW- OF				
	1			2	3	4	5	
				Small Pox.	Scarlatina.	Diphtheria.	Membranous Group.	Typhus.
North sub-district .....	3983	108	Under 5 ..... 5 upwards.			3 ..... 9		
Petworth Parish .....	2831	73	Under 5 ..... 5 upwards.		3 ..... 2		2	
Rest of South sub-district .....	2545	67	Under 5 ..... 5 upwards.			2 ..... 4		
Petworth Workhouse .....	33	3	Under 5 ..... 5 upwards.					
Wisborough Green Workhouse	36	...	Under 5 ..... 5 upwards.					
Petworth Cottage Hospital.....	3	...	Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
TOTALS .....	16248	467	Under 5 ..... 5 upwards.		3 ..... 7	5 ..... 15		

INFECTIOUS SICKNESS, coming to the knowledge of the Medical Officer  
PETWORTH ; classified according to DISEASES, AGES and LOCALITIES.

[illegible]

is compulsory in the District.

THAKEHAM  
RURAL SANITARY DISTRICT.

---

pp. 55 et seq.



## RURAL SANITARY DISTRICT OF THAKEHAM.

---

POPULATION IN 1871 .....	8,335
„ „ 1881 .....	8,285
„ „ 1891 .....	8,054
AREA IN ACRES .....	40,636
NUMBER OF HOUSES IN 1871 .....	1,705
„ „ 1881 .....	1,652
„ „ 1891 .....	1,610

### POPULATION.

The census returns of 1891 show that the population has declined during the past decade, notwithstanding that the births are much in excess of the deaths in each year. This decline, as in the case of Petworth, follows upon a diminution in the previous intercensal period, so that there are fewer persons living now in the district than there were twenty years ago, and, in fact, the number now is nearly the same as it was in 1861.

The loss is rather more evident in the Pulborough than in the Washington sub-district, as will be seen on comparing the following figures :—

	1871.	1881.	1891.
Pulborough sub-district ...	3979	3888	3746
Washington sub-district ...	4356	4397	4308
Total	<u>8335</u>	<u>8285</u>	<u>8054</u>

On comparing the figures given for each parish, it will be seen that in eight parishes there was a slight increase, and that in the remaining ten parishes there was a slight decrease. The people are chiefly engaged in agriculture, and the young adults seek employment elsewhere, leaving an excess of aged persons in the district ; this excess causes the mortality to be a little higher than that of a standard population.

*Pulborough sub-district :—*

	1871.	1881.	1891.
North Stoke .....	95	103	100
Amberley .....	535	570	525
Rackham .....	151	161	134
Greatham .....	60	59	66
Hardham .....	117	101	124
Cold Waltham .....	426	389	338
Wiggonholt .....	39	38	52
Pulborough .....	1855	1808	1787
West Chiltington .....	701	659	620

*Washington sub-district :—*

Parham .....	65	88	58
Storrington .....	1184	1351	1293
Sullington .....	159	200	212
Thakeham .....	631	539	486
Warminghurst .....	140	97	70
Ashington .....	277	255	219
Wiston .....	311	315	362
Washington .....	908	844	838
Findon .....	681	708	770

## BIRTHS AND BIRTH-RATE.

During the year 1891 the births of 223 children were registered ; of these, 124 were male, and 99 were female.

Estimating the population in the middle of the year at 8054 the birth-rate was equal to 27·7 per 1000 persons living.

The births and birth-rate during the past ten years have been as follows :

Year.	Births.	Birth-rate.	Year.	Births.	Birth-rate.
1882 ...	251	30·3	1887 ...	245	29·7
1883 ...	232	28·0	1888 ...	230	28·0
1884 ...	247	29·9	1889 ...	232	28·4
1885 ...	261	31·6	1890 ...	210	25·9
1886 ...	220	26·6	1891 ...	223	27·7

The mean number of births is 235·1, and the mean birth-rate is 28·6 per 1000 of population.

In England and Wales the birth-rate during the year was 31·4 per 1000 persons living, a rate 1·2 per 1000 higher than that in 1890, which was the lowest on record.

The following table shows the births and birth-rate in each locality during the past year :—

	Births.		Birth-rate.
Amberley Parish .....	14	...	26·6
Pulborough Parish.....	48	...	26·8
Rest of Pulborough sub-district	33	...	23·0
Storrington Parish.....	32	...	24·7
Washington Parish .....	24	...	28·6
Rest of Washington sub-district	72	...	33·0
	<hr/>		
Total.....	223		27·7

### GENERAL MORTALITY.

There were 125 deaths registered in the district during the year 1891, but to this number must be added the death of one person in the Worthing Infirmary belonging to this area, making a total of 126.

There were fifteen deaths in the Thakeham Workhouse, and these have been distributed amongst the several parishes whence each inmate came.

Estimating the population in the middle of the year at 8,054, the death-rate was equal to 15·6 per 1000 persons living.

In country districts throughout England and Wales the mortality in 1891 was equal to 18·5 per 1000 of population.

The variations in the death-rate during the past ten years have been as follows :—

Year.	Deaths.	Death-rate.	Year.	Deaths.	Death-rate.
1882 ...	103	12·4	1887 ...	123	14·9
1883 ...	121	14·6	1888 ...	106	12·9
1884 ...	126	15·2	1889 ...	127	15·5
1885 ...	119	14·4	1890 ...	101	12·4
1886 ...	118	14·3	1891 ...	126	15·6

Thus there have been during the above period 1170 deaths, and a mean mortality of 14·2 per 1000. During the same period there were 2351 births, so that the natural increase of population by excess of births over deaths was 1181. The census returns, however, show a *decrease* of 231 persons, so that a great many must have left this district during the past decade.



In each locality the deaths and death-rate are here shown :—

	Deaths in 1891.		Death-rate in 1891.
Amberley Parish .....	9	...	17·1
Pulborough Parish .....	35	...	19·5
Rest of Pulborough sub-district ...	22	...	15·3
Storrington Parish.....	17	...	13·1
Washington Parish .....	15	...	17·9
Rest of Washington sub-district ...	28	...	12·8
	<hr/>		<hr/>
Total .....	126		15·6

In each parish the deaths were thus distributed :

North Stoke.....	1	...	Parham .....	none
Amberley.....	9	...	Storrington.....	17
Rackham.....	2	...	Sullington .....	3
Greatham.....	none	...	Thakeham .....	2
Hardham.....	1	...	Warminghurst.....	3
Cold Waltham.....	7	...	Ashington .....	7
Wiggonholt .....	none	...	Wiston .....	6
Pulborough .....	35	...	Washington .....	15
West Chilington ...	11	...	Findon .....	7
	<hr/>			
Total .....	126			

## INFANT MORTALITY.

The *infant mortality* is here given as measured by the number of deaths under one year of age to the total number of births in the year:—

	Births	Deaths under one year	Ratio to 1000 Births
Amberley Parish .....	14	1	71
Pulborough Parish.....	48	10	208
Rest of Pulborough sub-district .....	33	3	91
Storrington Parish .....	32	2	62
Washington Parish .....	24	3	125
Rest of Washington sub-district .....	72	6	83
	<hr/>		<hr/>
Total .....	223	25	112

The 25 *infantile deaths* included one from whooping-cough, one from diarrhœa, one from tabes mesenterica, one from hydrocephalus, one from meningitis, three from convulsions, three from lung diseases, three from debility, two from marasmus, and two from malformation; seven infants were born prematurely.

### ZYMOTIC MORTALITY.

The deaths were 7 in number, of which 2 were among notifiable diseases, and 5 in the other class. The rate of mortality was therefore equal to 0·87 per 1000.

	Cases	Deaths
Small-pox .....	none	none
Scarlatina .....	28	1
Diphtheria .....	3	none
Membranous Croup.....	none	none
Fever {	Typhus .....	none
	Enteric .....	1
	Continued .....	none
	Relapsing .....	none
	Puerperal .....	none
Cholera .....	none	none
Erysipelas .....	2	none
Total	34	2

The scarlatina mortality was very low; 22 out of the 28 cases were over five years of age, and many were young adults. In each case the house was disinfected and cleansed after the illness had terminated.

In the other class the deaths were as follows:—

	Deaths.
Measles .....	none
Whooping-cough .....	2
Diarrhœa and Dysentery .....	2
Rheumatic Fever .....	1
Total	5

The cases of scarlet fever, with one exception, occurred in the parish of Pulborough; in May there was one case; in August, two cases; in September, eleven cases; in October, two cases; in November, eight cases, and in December four cases,

There were eleven houses in which the disorder appeared, and nearly all the cases arose from a person who came from Croydon in August, and who had just previously had a mild attack. The ages of those attacked were as follows.

	Male.	Female.	Total.
Under five years ... ..	6	—	6
From five to ten years ... ..	2	6	8
„ ten to fifteen years ... ..	2	3	5
„ fifteen to twenty years ... ..	2	2	4
„ twenty to twenty-five years ... ..	—	1	1
„ twenty-five to thirty years ... ..	1	—	1
„ thirty to forty years ... ..	0	3	3
	—	—	—
TOTAL	13	15	28

In the 11 houses there were 40 inmates other than the 25 who were attacked. They were thus distributed.

	Parents	Single Adults.	Children.	Total.
Male ...	9	7	6	22
Female ...	10	2	6	18
Total ...	19	9	12	40
<i>Cases of Fever:—</i>				
Male ...	1	2	10	13
Female ...	2	4	9	15
<i>Total Inmates:—</i>				
Male ...	10	9	16	35
Female ...	12	6	15	33
Total, both sexes	22	15	31	68

## WATER SUPPLY.

24 samples of water were sent to me for analysis, and of these 10 were found to be polluted, and their use was prohibited.

There is no public supply of water in any parish within this district. The people depend chiefly on dug wells, bored wells in a few cases, dipping holes or land springs, and on rain water tanks in the chalk district. In very dry seasons, there is much scarcity of water at Findon and at similar places where the inhabitants have to depend on rain water. In some cases, water has to be brought a distance of some miles for the use of the people and

cattle. There are some very deep wells sunk in the chalk, but these generally belong to large owners of property, and even here the supply may run short in dry seasons.

There has been considerable trouble at Storrington with regard to the water supply. The village stands on the porous lower greensand formation, and two or three of the wells around the Square have been polluted by the leakage of tar water from the gas works, which are close by. These wells have been closed and new ones have been sunk; in one case, a tube well was sunk 110 feet before good water could be obtained. At another well near the Square the water was found to yield the following result on analysis.

100,000 parts were found to contain :—

Chlorine	...	...	...	...	3.20
Sulphuric acid	...	...	...	...	2.16
Nitric acid	...	...	...	...	0.56
Nitrous acid	...	...	...	...	none
Free ammonia	...	...	...	...	0.3552
Albumenoid ammonia	...	...	...	...	0.0156
Phosphoric acid	...	...	very	heavy trace	
Total solids	...	...	...	...	18.36
Loss on ignition	...	...	...	...	3.44

Mr. Otto Hehner remarks that it is evident from the results of the analysis that the sample is grossly polluted with sewage, and absolutely unfit for drinking purposes. This water came from a shallow dug well, about 8 feet deep, sunk under the cellar of the house. There was no cesspit near, but the gas works lie about 100 yards S.E. of the well. In two other cases the smell of gas in the water was very perceptible. Upon this porous sandy formation, the springs are often found to contain iron which gives the water a distinct brownish or yellowish colour, but not containing enough to make it injurious to health.

In a few cases where the wells have been polluted, it has not been found possible to dig a fresh well on the narrow area belonging to the houses, and then the tenants have to trust to their neighbours for a good supply.

A common defect is the old and broken condition of the well kerb whereby surface water can enter; such defects are remedied when they are met with, and as this district is now better inspected than at any former period, much good work has been lately effected.



## DRAINAGE.

There is no village in this district which has a main system of drainage. In the lower street of Pulborough there is an open channel which conveys dirty water from about sixteen houses down to a ditch whence it runs into the river. This dirty fluid consists of water used for washing purposes, and for cleansing back yards, etc. It is more of an eyesore than a nuisance, and the nature and slope of the soil is such that the liquid cannot be used on the back gardens without risk of the well water becoming polluted. A scheme for draining this part of the village has been suggested, but it has been objected to on the score of expense, and because those living in other parts of this large parish did not care to pay for the drainage of a few houses from which they would derive no benefit.

At Storrington there are old covered channels or drains for carrying storm or surface water away. At various times, the house drains from a few dwellings have been connected with these channels, and dirty water is thus conveyed into a mill stream.

Most of the houses in this district are isolated, and there is enough garden ground on which any sewage might be utilised. An effort has lately been made to improve the sanitary surroundings of these cottages by doing away with cesspools, and by a more systematic method of dealing with house refuse. The earth system is very seldom adopted, and it is most common to find the closet in the garden, detached from the house and provided with a small covered ventilated cesspit, which must be often cleared out. It is rare to find any sink drain inside a cottage, and, when met with, they are removed. Bell traps are still far too common, and in such cases proper gully traps are strongly recommended.

Many of the cottages are very old, and a few are shortly to be closed under the Housing of the Working Classes Act, 1890. Much discretion has to be shown in dealing with these cases, as it is very difficult for the inmates who are turned out to find fresh dwellings.

## SCAVENGING AND CLEANSING.

Steps were taken during the year to make byelaws for the prevention of nuisances, under section 44 of the Public Health Act, 1875, and to contract for the removal of house refuse and the cleansing of closets, ashpits, etc., under section 42 of the same act. At present it is sought to apply these powers to Storrington, and in a short time the other populous parishes of Pulborough and Amberley will probably be provided for in a similar manner.

## SYSTEMATIC INSPECTION.

The district was regularly inspected during the year, and a house to house inspection was made in Storrington by Mr. A. G. Gibbs, the Sanitary Inspector. To show the work done, I herewith append his report dealing with the water supply and various insanitary conditions.

Having made a house to house inspection of the village of Storrington, which consists of 163 houses, I beg to submit to you the accompanying detailed report, the following summary of the sanitary condition of the village and suggestions for remedying the defects.

The closet accommodation of 121 houses is the privy, the cesspits of which are sealed, no ventilation being provided for the cesspits, and with but few exceptions for the building, either the doors fit tight, the plaster being boxed in, and in some cases the privies are ceiled; 11 of these are attached to the house, 29 within 10ft.; 17 within 20ft.; 19 within 30ft.; and the majority of these are situated in very confined yards or in woodhouses, the garden spaces are also so small that the occupiers are quite unable to cope with the refuse by removing it as often as is necessary in closets of that description. 13 houses are provided with earth-closets, 9 of these are well kept, care being taken to use dry earth or ash siftings as deodorants and absorbents, but in the case of the other 4, nothing was used to deodorise the soil, the garden space was also so small that the occupiers were unable to empty them as often as is necessary; 2 houses are provided with pan or container closets which are always fixed with a D trap; these are most defective basins and traps, as they possess large filth collecting surfaces, are not self cleansing, contain a large amount of space not occupied by water for the collection and generation of gas, and the D trap which is fixed below the floor of the closets often becomes holed, thus allowing the free access of cesspool gas into the house. In 9 cases the soil pipes are inside of the houses and 12 are unventilated, 5 houses are provided with "Wash Out" basins and syphon trap, 1 with a valve closet, 6 with basin and traps known as the Short Hopper, and 3 with Long Hopper basin. These latter are of a defective kind as they are not self cleansing, and the basins become very much fouled.

At 14 houses there are sink or other drains inside of the houses, these are trapped with Bell-traps which is one possessing very little water seal. The trap is destroyed by removing the grating which is often done to cleanse the well of the trap and to flush the drain, as the passage of water through it is so sluggish as to be insufficient for flushing purposes. At 9 houses the sink waste



pipes are in direct communication with the drains, thus allowing the access of cesspool gas into the house, and even when a trap is provided the water seal is often forced by the pressure of gas. At 6 houses there are drains untrapped.

House and w.c. drains are connected to the street surface water drains which has its outfall into a stream at the East end, and into a Fish Pond at the West end.

There are 28 houses, the whole or part of which are in a very dirty and dilapidated condition, not having had anything done to them in the way of cleansing for some years.

I also find there are 4 cases of insufficient closet accommodation, in one case 4 houses using one closet.

There are two street gratings in Church Street which are very offensive.

To remedy the defects stated in the foregoing Summary, I respectfully beg to recommend you to adopt the powers conferred on you by the 42nd clause and the last paragraph of the 44th clause of the Public Health Act, 1875. As the houses are built so close together and are not provided with sufficient garden space for the occupiers to deal with the house refuse and fœcal matter, a great nuisance is caused by decomposing matters remaining for some considerable time about the premises. Also that it be suggested to the owners to convert all the privies into earth closets or to reduce the size of the cesspits and to construct them on the following principles:—(1) The cesspit should be small, not exceeding the following dimensions, depth, 12 inches; length and width 3 feet; the cesspit should not be excavated but be entirely above ground. (2) Thorough ventilation of closet, and separate ventilation of cesspit. (3) Provision for frequent throwing of dry earth or ashes into the cesspit to deodorise deposit. (4) Prevention of soakage from cesspit and access of rain water to it. (5) That hinged coverings be provided to facilitate cleansing.

With respect to the defective "Container" closets, the owner's attention be called to the same, suggesting that a "wash out" or other suitable basin and trap be provided.

In all cases where the soil pipes are inside of the houses, if possible, they should be taken outside or disconnected from the cesspool or drain by means of a suitable disconnecting trap.

Sufficient ventilation should be provided in all cases for the soil pipes of an inside w.c., by extending them to a point above the roof, clear of all windows or openings.



In the 4 cases of insufficient closet accommodation, an additional earth closet be erected in the cases of Nos. 53, 56, 107, 110, 118, 122, but in the case of Nos. 25, 27, two earth closets should be erected, as the existing privy is so dilapidated and past repair.

All sink or other drains that are inside of houses, should be removed, the sink waste pipes should be carried through an external wall and deliver in the open air over a channel leading to a properly trapped drain.

The 28 houses, the whole or part of which are in a dirty and dilapidated state, the owners should be called upon to limewash under the 46th clause, and to repair under the 91st clause of the Public Health Act, 1875.

In the case of the two street gratings, the Surveyors of Highways should be called upon to examine the same and adopt remedial measures.

It should also be suggested to owners whose houses are provided with closets with long hopper basins, to have short hopper basins fixed.

I would also recommend you to adopt Sections 169 and 170 of the Public Health Act, 1875, which empowers you to make Byelaws for the Regulation of Slaughter Houses, also Sections 112, 113, and 114 of the same act, which empowers you to deal with offensive trades.

The water supply of the village is derived from dug wells, ranging from 5 feet to 35 feet in depth ; 25 of these, supplying 51 houses, yield a discoloured water, in some cases of a greenish and in others of a brownish tint ; 8 wells supplying 33 houses yield but little water ; 6 wells supplying 10 houses—the water is not drunk ; 3 wells supplying 11 houses, are polluted and unfit for drinking purposes ; 3 wells which should supply 11 houses—no water is to be obtained ; the other wells yield a water that is clear, hard and plentiful.

The question of the water supply was referred to the Easter Vestry, when it was decided to hold a special Vestry Meeting to consider the subject.

At this special meeting, the public opinion was most decidedly against any public water supply.

Private owners were then called upon by the Sanitary Authority to improve their supplies by a resolution of May 27th, 1891. Fifteen cases were dealt with. By August 11th one new well had been sunk to a depth of 30 feet, with 16½ feet of water in it ; in a second case the well was deepened 9 feet, so that it is now 45 feet, with 18 feet of water in it ; in a third and fourth case the

tenants obtained water from an adjoining property ; and in a fifth case, the well was deepened 4 feet, so that more water was obtained. The rest of the cases were deferred or a second notice was served.

By September 8th. three more wells had been deepened, so that a sufficient water supply was obtained, and in one case a new supply was obtained within 50 yards.

In the rest of the cases, the owners had by the end of the year improved the supply except in one case, where nothing had been done.

The rest of the work may be thus summed up :—

Eight pan closets have been taken out.

All the sink drains have been carried outside the dwelling and deliver in the open air, except in two cases which are now in hand.

Most of the privies have been ventilated and otherwise improved.

Twenty houses have been provided with earth closets. All the cleansing, limewashing and repairing work has been carried out.

The following summary shows the sanitary work done in other parts of the district :—

Nuisances reported	...	...	...	60
Nuisances abated without notice	...	...	...	54
Houses reported unfit for habitation	...	...	...	3
Houses closed	...	...	...	1
Houses placed in habitable repair	...	...	...	2
Houses cleansed and disinfected	...	...	...	46
Cases of overcrowding	...	...	...	3
Cases of overcrowding abated	...	...	...	3
Wells sunk for improved supply	...	...	...	6
Wells cleansed	...	...	...	4
Wells closed	...	...	...	3
Defective pumps repaired	...	...	...	12
Samples of water analysed	...	...	...	18
Certificates granted for New Houses	...	...	...	11

## COWSHEDS AND DAIRIES.

These are kept very well, and they are provided with good water and plenty of light and ventilation. Frequent inspection is necessary to keep them clean, and to see that all refuse is often removed.

The SLAUGHTER HOUSES and BAKEHOUSES are kept clean and limewashed.

There is but little demand for MARGARINE, and when sold, the regulations of the act have been complied with.

No PROCEEDINGS were taken before the magistrates during the year.

There is no registered common lodging house in this district.

No cases occurred in which it was necessary to condemn meat or any other article of food.

### INQUESTS.

INQUESTS were held in six cases :—Male, 58 years, heart disease ; male, 67 years, accidental fall ; male, 2 months, debility ; male, 73 years, suicide by shooting ; male, 50 years, found drowned ; female, 77 years, heart disease.

There was but one death returned as “not certified” out of a total of 126 deaths :—Male, 1 day, convulsions.



## THAKEHAM RURAL SANITARY DISTRICT

TABLE 1.—Showing the Deaths at various groups of ages in the ten years, 1882-91.

Year.	At all Ages.	Under 1 Year.	1 to 5.	5 to 15.	15 to 25.	25 to 60.	60 and over.
1882.....	103	9	12	4	4	22	52
1883.....	121	19	11	3	7	32	49
1884.....	126	17	12	9	5	31	52
1885.....	119	21	13	8	5	28	44
1886.....	118	18	9	2	6	32	51
1887.....	123	19	13	6	6	26	53
1888.....	106	17	8	3	4	24	50
1889.....	127	19	22	9	7	24	46
1890.....	101	12	4	3	5	26	51
1891.....	126	25	6	5	6	27	57
Total .....	1170	176	110	52	55	272	505

TABLE 2.—Showing the Deaths and Death-rate in each of the ten years, 1882-91, from Zymotic Diseases.

YEAR.	Small Pox.	Measles.	Scarlatina.	Diphtheria.	Whoop-cough.	Con. Fevers.			Diarrhoea and Dysentery.	Rheumatic Fever.	Erysipelas.	Pyæmia.	Puerperal Fever.	TOTAL.	Rate per 1000 persons living.
						Typhus.	Enteric.	Other.							
1882	...	1	1	2		...	1	...	...	1	...	...	...	6	0.7
1883	...	...	1	2		...	2	...	2	...	...	...	...	7	0.8
1884	...	...	1	1	3	1	1	...	...	...	3	...	2	12	1.4
1885	...	...	3	5	2	...	...	...	2	...	2	...	...	14	1.6
1886	1	...	2	...	6	...	1	...	2	...	1	...	3	16	1.9
1887	...	...	1	4	1	...	4	...	2	...	1	...	...	13	0.5
1888	...	...	1	...	2	...	...	...	3	...	...	...	1	7	0.8
1889	...	2	1	12	5	...	...	...	1	...	2	...	...	23	2.7
1890	...	1	...	...	...	...	1	...	1	...	...	...	...	3	0.3
1891	...	...	1	2	...	...	1	...	2	1	...	...	...	7	0.8
Tl.	1	4	12	28	19	1	11		15	2	9		6	108	1.3

## THAKEHAM RURAL SANITARY DISTRICT.

TABLE 3.—Showing the Deaths and Death-rate from all causes and from various causes in the ten years, 1882-91.

YEAR	Deaths during the 10 years 1882-91, from					Annual Death-rate per 100,000 living from				
	Population in middle of period	All Diseases	Zymotic Disease.	Phthisis.	Lung Disease	Heart Disease	All Diseases	Zymotic Disease	Phthisis.	Lung Disease
1882.....	8280	103	6	11	20	8	1243	72	132	241
1883.....	8280	121	7	15	20	9	1461	84	181	241
1884.....	8250	126	12	10	24	8	1527	145	121	290
1885.....	8250	119	14	10	27	10	1442	169	121	327
1886.....	8250	118	16	10	32	11	1430	194	121	388
1887.....	8250	123	13	14	18	12	1490	157	170	218
1888.....	8200	106	7	9	22	14	1292	85	109	266
1889.....	8150	127	23	12	24	10	1558	279	145	291
1890.....	8100	101	3	6	18	13	1247	36	73	218
1891.....	8054	126	7	8	22	13	1564	87	99	273

(A)—Table of DEATHS during the Year 1891, in the Rural Sanitary District

Names of Localities adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.  (a)	MORTALITY FROM ALL CAUSES, AT SUBJOINED AGES.							(i)	1	2	3
	At all ages. (b)	Under 1 year. (c)	1 and under 5. (d)	5 and under 15. (e)	15 and under 25. (f)	25 and under 60. (g)	60 and upwards. (h)		Small Pox. (i)	Scarlatina. (j)	Diphtheria. (k)
Amberley Parish .....	8	1	1	2	—	—	4	Under 5 ..... 5 upwards.			
Pulborough Parish.....	31	10	—	2	1	9	9	Under 5 ..... 5 upwards.		1	
Rest of Pulborough sub-district	20	3	1	—	1	4	11	Under 5 ..... 5 upwards.			
Storrington Parish.....	14	2	—	1	—	4	7	Under 5 ..... 5 upwards.			
Washington Parish .....	10	3	—	—	2	4	1	Under 5 ..... 5 upwards.			
Rest of Washington sub-district	27	6	4	—	2	4	11	Under 5 ..... 5 upwards.			
Thakeham Workhouse .....	15	—	—	—	—	1	14	Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
TOTALS .....	125	25	6	5	6	26	57	Under 5 ..... 5 upwards.		1	

The subjoined numbers have also to be taken into

Deaths occurring outside the District among persons belonging thereto.....	1	—	—	—	—	1	—	Under 5 ..... 5 upwards.			
Deaths occurring within the District among persons not belonging thereto.....	—	—	—	—	—	—	—	Under 5 ..... 5 upwards.			



of THAKEHAM classified according to Diseases, Ages, and Localities.

MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN  
UNDER FIVE YEARS OF AGE.

4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Membranous Croup.	FEVERS.					Cholera.	Erysipelas.	Measles.	Whooping Cough.	Diarrhoea and Dysentery.	Rheumatic Fever.	Ague.	Phthisis.	Bronchitis, Pneumonia, Pleurisy.	Heart Disease.	Injuries.	All other Diseases.	TOTALS.
	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.													
																	2	
														2	2		2	
										1				2			7	1
										1	1		2	4	2	2	8	2
																	4	
													1	5	2	1	7	1
																	2	
													2	2	2		6	1
																	3	
		1											1		2		3	
									2					2			6	1
													1	3	2		11	1
													1	2	1		11	1
									2	1				4			24	3
		1								1	1		8	18	13	3	48	9

account in judging of the above records of mortality.

[illegible]

(B)—Table of POPULATION, BIRTHS, AND OF NEW CASES OF  
of Health, during the year 1891, in the Rural Sanitary District of

Names of Localities adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.  (a)	POPULATION AT ALL AGES.  Census 1891.  (b)	Registered Births.  (d)	Aged under 5 or over 5.  (e)	NEW CASES OF COMING TO THE KNOW OF				
				1 Small Pox.	2 Scarlatina.	3 Diphtheria.	4 Membranous Croup.	5 Typhus.
Amberley Parish .....	525	14	Under 5 5 upwards.					
Pulborough Parish .....	1787	48	Under 5 5 upwards.		6 22			
Rest of Pulborough sub-district	1434	33	Under 5 5 upwards.			2		
Storrington Parish.....	1293	32	Under 5 5 upwards.			1		
Washington Parish .....	838	24	Under 5 5 upwards.					
Rest of Washington sub-district	2099	68	Under 5 5 upwards.					
Thakeham Workhouse .....	78	4	Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
TOTALS .....	8054	223	Under 5 5 upwards.		6 22	3		

compulsory in the District.



EAST PRESTON  
RURAL SANITARY DISTRICT.

---

pp. 75 et seq.

## RURAL SANITARY DISTRICT OF EAST PRESTON.

---

POPULATION IN 1871 .....	7,680
„ „ 1881 .....	8,025
„ „ 1891 .....	8,761
AREA IN ACRES .....	30,696
NUMBER OF HOUSES IN 1871 .....	1,467
„ „ 1881 .....	1,662
„ „ 1891 .....	1,846

### POPULATION.

There have been several changes in the arrangement of the parishes during the last twenty years. In 1876 a portion of the rural parish of Broadwater, containing about 600 people, dwelling on 200 acres of land, was added to the Urban Sanitary District of Worthing.

In October, 1883, Angmering (North), with 28 houses and 130 persons, and Lyminster (North), with 85 houses and 413 persons, were transferred from Littlehampton to the Arundel sub-district. In November, 1890, the rural portion of Heene, with 30 houses and 150 persons, was merged in the Borough of Worthing. In spite of the loss of 756 persons by alteration of area, and thus adding to the population of Worthing, the numbers have increased at each census period.

In each sub-district the various changes are here shown :

	1871.	1881.	1891.
Worthing sub-district .....	3177	2910	3341
Littlehampton sub-district	3163	3753	3437
Arundel sub-district .....	1340	1362	1983
	<hr/>	<hr/>	<hr/>
Total	7680	8025	8761

Of the parishes in this district, one has been transferred ; ten show an increase over 1881 of 786 persons, viz. :—Broadwater, West Tarring, Lyminster, and Tortington ; ten smaller parishes show a stationary or decreasing population.

The figures for each parish are here given as they were enumerated at each census period.

*Worthing sub-district:—*

	1871.	1881.	1891.
Broadwater .....	1228	841	1096
Heene .....	151	156	...
West Tarring .....	656	733	1035
Clapham .....	246	239	270
Durrington .....	165	181	153
Goring .....	464	528	561
Ferring .....	267	232	226

*Littlehampton sub-district:—*

Kingston ... ..	27	34	43
East Preston.....	331	420	414
Angmering (South) .....	1041	982	883
Lyminster (South) .....	1071	1587	1320
Rustington .....	359	360	434
Climping .....	261	270	241
Ford .....	73	100	102

*Arundel sub-district:—*

Tortington .....	138	165	288
Poling .....	174	180	178
Patching .....	268	274	270
Angmering (North) .....	...	...	131
Warningcamp .....	159	128	159
Lyminster (North) .....	...	...	373
Burpham .....	304	286	280
South Stoke .....	108	133	131
Houghton .....	189	196	173

## BIRTHS AND BIRTH-RATE.

During the year 1891, the births of 244 children were registered ; of these 120 were male, and 124 were female.

Estimating the population in the middle of the year at 8,712, the birth-rate was equal to 28·0 per 1000 persons living.

The births and birth-rate in the district during the last ten years have been as follows :—

Year.	Births.	Birth-rate.	Year.	Births.	Birth-rate.
1882 ...	266	32·3	1887 ...	241	28·1
1883 ...	262	31·4	1888 ...	226	26·2
1884 ...	247	29·5	1889 ...	230	26·5
1885 ...	234	27·5	1890 ...	204	23·4
1886 ...	246	28·8	1891 ...	244	28·0



The mean number of births is 240, and the mean birth-rate is 28·2 per 1000 of population.

In England and Wales the birth-rate during the year was 21·4 per 1000 persons living, a rate of 1·2 per 1000 higher than that in 1890, which was the lowest on record.

The following table shows the births and birth-rate in each locality during the past year —

	Births.	Birth-rate.	Population.
Worthing sub-district .....	93	28·5	3261
Littlehampton sub-district .....	110	31·7	3467
Arundel sub-district.....	41	20·7	1984
	<hr/>	<hr/>	<hr/>
Total.....	244	28·0	8712

The birth-rate which has been steadily declining since 1882, and which reached its lowest point in 1890, showed a marked rise during the past year.

### GENERAL MORTALITY.

There were 143 deaths registered in this district during the year 1891, but from this number must be deducted the deaths of 24 persons belonging to urban areas outside this district. These 24 persons died in East Preston Workhouse, of whom 12 came from Worthing, 8 from Littlehampton, and 4 from Arundel. There were also 11 other deaths in the Workhouse, and these have been distributed among the several parishes whence each inmate came, viz., Broadwater, 2; Goring, 1; East Preston, 1; Angmering, 3; Lyminster, 2; Climping, 1; Houghton, 1; in all, 11. To these 119 deaths must be added the deaths of 4 persons in the Worthing Infirmary, making a total of 123 deaths.

Estimating the population in the middle of the year at 8712, the death-rate was equal to 14·1 per 1000 persons living.

In country districts throughout England and Wales the rate of mortality in 1891 was 18·5 per 1000 of population.

The variations in the death-rate during the past ten years have been as follows :

Year.	Deaths.	Death-rate.	Year.	Deaths.	Death-rate.
1882 ...	97	11·8	1887 ...	114	13·3
1883 ...	130	15·6	1888 ...	108	12·5
1884 ...	116	13·9	1889 ...	116	13·4
1885 ...	132	15·5	1890 ...	122	14·0
1886 ...	106	12·4	1891 ...	123	14·1

The mean number of deaths is 116·4, and the mean death-rate is 13·6 per 1000. During this decade there were 2400 births, so the natural increase of population by excess of births over deaths was 1236, the births being more than twice the number of deaths.

The actual increase was 886, but as Heene with its 150 people was transferred to Worthing, the real increase was 736; there is, however, a discrepancy of 50 in the published returns.

The following table shows the deaths and death-rate in each locality during the past year.

	Deaths.	Death-rate.	Population.
Worthing sub-district .....	50	15·3	3261
Littlehampton sub-district .....	49	14·1	3467
Arundel sub-district ... ..	24	12·1	1984
Total.....	123	14·1	8712

In each parish the deaths were thus distributed :—

Broadwater.....	18	...	Climping .....	4
West Tarring.....	19	...	Ford .....	none
Clapham.....	1	...	Tortington .....	1
Durrington.....	3	...	Poling.....	3
Goring .....	7	...	Patching.....	6
Ferring .....	2	...	Angmering (north)	none
Kingston .....	none	...	Warningcamp.....	1
East Preston .....	4	...	Lyminster (north) ...	3
Angmering (south)	18	...	Burpham.....	3
Lyminster (south) ...	21	...	South Stoke .....	3
Rustington.....	2	...	Houghton .....	4
Total.....	123			

### INFANT MORTALITY.

The *infant mortality* is here given as measured by the number of deaths under one year of age to the total number of births in the year :—

	Births.	Deaths under one year.	Ratio to 1000 Births.	Ratio 1890	Ratio 1889
Worthing sub-district .....	93	12	129	112	12
Littlehampton sub-district	110	10	91	76	135
Arundel sub-district.....	41	3	73	66	117
Total	244	25	102	88	88

In England and Wales the proportion of deaths under one year of age to registered births was 149 per 1,000 during the past year, the mean proportion in the preceeding ten years having been 142.

The 25 *infantile* deaths included 1 from measles, 1 from whooping-cough, 1 from diarrhoea, 1 from abscess, 5 from convulsions, 5 from lung diseases, 3 from debility, 2 from atrophy, and one from malformation. One infant was accidentally suffocated, and four were born prematurely.

### ZYMOTIC MORTALITY.

There was 1 death from zymotic disease in the case of those which are notifiable, and there were 6 deaths in the other class where the number of cases cannot be obtained.

	Cases.	Deaths.
Small-pox .....	none	none
Scarlatina .....	1	none
Diphtheria .....	1	none
Membranous Croup.....	none	none
Fever. {	Typhus .....	none
	Enteric .....	1
	Continued .....	none
	Relapsing .....	none
	Puerperal .....	none
Cholera .....	none	none
Erysipelas .....	none	none
<hr/>		<hr/>
Total	6	1

The Notification Act, 1889, only came into operation on March 1st, 1891. There was only one death from enteric fever at West Tarring of an aged person who had nursed her grandchild with the same disorder contracted at Arundel in the epidemic during the autumn of 1890. There were also two deaths of aged males from erysipelas which were not notified.

In the other class the deaths were as follows :—

	Deaths.
Measles .....	2
Whooping Cough .....	2
Diarrhoea and Dysentery .....	2
Rheumatic Fever .....	none
<hr/>	
Total	6

Adding the two classes together, there is a total of 10 deaths with a zymotic mortality of 1·14 per 1000.

The Infectious Diseases (Notification) Act, 1889, came into operation in this district on March 1, 1891, and on the same day the Infectious Disease (Prevention) Act, 1890, also took effect.

On March 21, 1891, the Public Health Acts Amendment Act, 1890, Part III, came into operation.



## BYE-LAWS.

Bye-laws were provided in March, 1887, for the contributory places of Broadwater and West Tarring with respect to the level of new streets; the structure of walls, foundations, roofs and chimneys of new buildings for securing stability and the prevention of fires, and for purposes of health; for the drainage of new buildings, water closets, earth closets, privies, ashpits, and cesspools in connection with buildings, the closing of buildings or part of buildings unfit for human habitation, and the prohibition of their use for such habitation.

These bye-laws were allowed by the Local Government Board on April 7th, 1887; they are formed on the model bye-laws.

Bye-laws were also made in 1891, for the contributory place of West Tarring, under the last paragraph of sect. 44 of the Public Health Act, 1875, for the prevention of nuisances arising from snow, filth, dust, ashes and rubbish, and for the prevention of the keeping of animals on any premises so as to be injurious to health. These, framed on the model bye-laws, were allowed by the Local Government Board on May 16th, 1891.

Similar bye-laws, which were allowed by the Local Government Board on August 10th, 1891, were made for the contributory place of Broadwater.

Bye-laws were also made in 1891 for the contributory place of West Tarring, under sections 169 and 170 of the Public Health Act, 1875, for the licensing, registering and inspection of slaughter houses, for preventing cruelty therein, for keeping the same in a cleanly and proper state, for removing filth at least once in every twenty-four hours, and requiring such slaughter houses to be provided with a sufficient quantity of water. These regulations, framed on the Model Bye-laws, were allowed by the Local Government Board on May 16th, 1891.

Similar bye-laws, which were allowed by the Local Government Board on August 10th, 1891, were made for the contributory place of Broadwater.

## WATER SUPPLY.

The arrangements for the water supply of Broadwater were detailed in my last report. The mains of the Worthing Waterworks were extended to the village in the early part of 1890, and up to the end of the year 1891, 52 houses had been thus supplied with good water on the constant system.

West Tarring is now supplied with good water on the intermittent system from the West Worthing Waterworks; the mains were extended to this village in 1888. In each of the new cottages

there is a cistern in the upper part of the house which is filled twice a day, and whence water is drawn for drinking purposes. The same cistern also supplies a small tank placed in each w.c. for flushing purposes.

Water certificates were granted under the Public Health (Water) Act, 1878, in the case of 28 new houses, of which 21 were at West Tarring, 3 at Tortington, 2 at Rustington, and 2 at Wick.

Seven samples of water were sent for analysis, but only one was found to be so polluted as to be injurious to health. This well was then closed, and a new one is to be provided.

A dug well is the common source of supply for the scattered houses in the district, and care is taken that the surroundings of the well are clean, and that the kerbs are kept in good repair. On the chalk hills, the people have to collect the rain water, and in a few cases, deep wells have been provided. In some houses, as at Poling, where there is a great thickness of mottled clay belonging to the Woolwich and Reading Beds, the rain water is collected in the basement of the dwelling, which is cemented for this purpose.

### DRAINAGE.

The drainage of West Tarring was detailed in my last annual report. Several new cottages were built during the year, and they are all connected with the new sewer, which connects with the Worthing system of sewage.

The drains are outside the houses; all sink and waste pipes deliver into the open air on to stoneware gully traps; the closets are furnished with a flushing cistern and hopper pan and trap, and they are placed at the back of the houses so that they are freely open to the air.

At Broadwater there is at present no main system of sewerage, but it is probable that at no distant time the village will drain into the Worthing sewers. The inhabitants have to depend on earth closets, modified privies with small cesspits, and cesspools, which are now emptied regularly by a contractor. The cesspools are being gradually done away with; five old ones have been lately removed, and seven new closets have been erected. At Wick there is no system of sewage, and the drainage is in a very bad condition. Nearly every house has in its back yard an outdoor w.c., a long hopper pan and trap, and such closets are flushed by hand. All the drainage is collected in numerous large cesspools, whence the contents soak away into the ground. The subsoil is not only being constantly polluted, but the cesspools frequently overflow, and the water supply is in danger.

In the other more rural parts of the district, there is generally ample garden ground to each house, so that all refuse can be easily utilised.



## SYSTEMATIC INSPECTION.

This district has been better inspected during the last two or three years than at any previous period. Broadwater and West Tarring have received a house to house inspection, and a great many minor nuisances have been remedied. Steps are now taken for the regular removal of house refuse, and the sanitary surroundings of the dwellings are much improved. Some details have been given under the heads of water supply, drainage and scavenging.

Wick is the chief place now which requires attention, and at least a good water supply there is urgently needed.

At West Tarring, the newly-made roads where building operations have been going on, have been in a filthy condition for many months, especially in Becket Road and St. Dunstan's Road. Steps are now being taken to metal and pave these roads, and to put them in good repair. Here, as in other districts, the majority of nuisances are dealt with and abated without any formal notice being given to the owner or occupier.

## SCAVENGING AND CLEANSING.

At West Tarring a contract has been entered into by which all ashes and ordinary house refuse are removed every Saturday morning. Boxes or tubs containing this refuse are placed outside the houses, and they are emptied early in the morning. The Parochial Committee issued a circular reminding the inhabitants of their duties in assisting the local authority. The circular states

“This will be best done by providing suitable receptacles, and taking care that they are ready when the Dustman calls. They are not allowed to remain on the footpaths more than one hour.

“The Dustman starts from the North end of the Village punctually at 7 o'clock, and taking Church Lane, Guildford Road, St. Dunstan's Road, and Becket Road, in their order on the way, finishing at the Level Crossing.

“The Committee also call the attention of Builders and Owners to the importance of using good flushing cisterns, and to the tenants they would point out the necessity for care in the use of them, thus preventing the annoyance of frequently being called upon to remedy defects.

“The Committee rely on the Inhabitants generally to assist and co-operate with them by every means in their power to keep the village clean and healthy.”

The same contractor also empties the earth closets at a cost of 10d. for each closet; he does not supply earth but uses the stuff on a market garden. There are no cesspits in this area.



At Broadwater a similar system is adopted. The contractor removes the ashes, etc. once a week, and uses them in his nursery garden. He also empties at fixed intervals all earth closets, privies and cesspools at the following charges :—1s. for each earth closet, 3s. 9d. for each privy, and 15s. for each cesspool each time of emptying. The cesspools are by degrees being done away with.

In all other parts of the district, each occupier looks after and deals with his own refuse.

### BAKEHOUSES.

These are fifteen in number, and they have been frequently inspected and kept in a clean condition. In one case the bakehouse is dark and badly ventilated, and this must be remedied.

In no case is there any drain or closet in connection with the bakehouse.

### SLAUGHTERHOUSES.

These are six in number, but the amount of work done is of small amount ; the places are regularly limewashed and kept clean.

These will now be kept in better control, since new bye-laws have been adopted in Broadwater and West Tarring.

### MARGARINE.

There is very little demand for margarine, but, when sold, the regulations of the Act have been complied with.

### COWSHEDS AND DAIRIES.

There are 26 cowsheds and dairies ; these have been regularly inspected and kept in good order.

There is no COMMON LODGING HOUSE in the district.

No PROCEEDINGS were taken before the Magistrates during the year.

One case of OVERCROWDING was abated by a lodger leaving his apartment.

No ARTICLE OF FOOD was condemned as unfit for use.

### INQUESTS.

INQUESTS were held in nine cases :—Male, 63 years, accidental fall downstairs ; male, 13 years, accidentally suffocated ; male, 2 years, accidentally burnt ; male, 35 years, accidentally run over ; male, 5 days, convulsions ; male, newly born, accidentally suffocated ; male, 64 years, apoplexy ; male, 50 years, want of food and exposure to cold ; male, 60 years, found drowned.

There was one death returned as “not certified” out of a total of 123 deaths :—Male, 71 years, heart disease.

## EAST PRESTON RURAL SANITARY DISTRICT.

TABLE 1.—Showing the Deaths at various groups of ages in the ten years, 1882-91.

Year.	At all Ages.	Under 1 Year.	1 to 5.	5 to 15.	15 to 25.	25 to 60.	60 and over.
1882.....	97	15	14	3	5	25	35
1883.....	130	21	11	5	4	34	55
1884.....	116	23	12	7	4	30	40
1885.....	132	19	11	7	8	30	57
1886.....	106	19	15	4	1	21	46
1887.....	114	10	5	10	11	24	54
1888.....	108	15	14	10	7	21	41
1889.....	116	20	8	4	6	29	49
1890.....	122	18	8	2	9	28	57
1891.....	123	25	8	5	6	24	55
Total .....	1164	185	106	57	61	266	489

TABLE 2.—Showing the Deaths and Death-rate in each of the ten years, 1882-91, from Zymotic Diseases.

YEAR.	Small Pox.	Measles.	Scarlatina.	Diphtheria.	Whoop-cough.	Con. Fevers.			Diarrhoea and Dysentery.	Rheumatic Fever.	Erysipelas.	Pyæmia.	Puerperal Fever.	TOTAL.	Rate per 1000 persons living.
						Typhus.	Enteric.	Other.							
1882	..	..	..	1	5	..	1	..	..	..	..	..	..	7	0·8
1883	..	6	..	1	..	..	..	..	2	..	..	..	..	9	1·0
1884	..	2	2	4	..	..	..	..	2	..	1	..	..	11	1·3
1885	..	1	1	2	2	..	..	..	2	..	..	..	..	8	0·9
1886	..	..	2	2	4	..	..	..	6	..	..	..	..	14	1·6
1887	..	..	1	2	..	..	1	..	5	..	..	..	..	9	1·0
1888	..	..	2	4	9	..	..	..	1	..	..	..	1	17	1·9
1889	..	1	..	4	2	..	..	..	1	..	..	..	..	8	0·9
1890	..	..	..	1	2	..	..	..	3	..	..	..	..	6	0·6
1891	..	2	..	..	2	..	2	..	2	..	2	..	..	10	1·1
Tl.		12	8	21	26		4		24		3		1	99	1·1





(A)—Table of DEATHS during the Year 1891, in the Rural Sanitary District

Names of Localities adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.  (a)	MORTALITY FROM ALL CAUSES, AT SUBJOINED AGES.							(i)	1	2	3
	At all ages. (b)	Under 1 year. (c)	1 and under 5. (d)	5 and under 15. (e)	15 and under 25. (f)	25 and under 60. (g)	60 and upwards. (h)		Small Pox. (i)	Scarlatina. (j)	Diphtheria. (k)
Worthing sub-district .....	45	12	3	1	2	8	19	Under 5 ..... 5 upwards.	.....	.....	.....
Littlehampton sub-district ...	40	10	4	2	1	9	14	Under 5 ..... 5 upwards.	.....	.....	.....
Arundel sub-district .....	23	3	—	2	2	5	11	Under 5 ..... 5 upwards.	.....	.....	.....
East Preston Workhouse .....	35	—	—	—	—	8	27	Under 5 ..... 5 upwards.	.....	.....	.....
								Under 5 ..... 5 upwards.	.....	.....	.....
								Under 5 ..... 5 upwards.	.....	.....	.....
								Under 5 ..... 5 upwards.	.....	.....	.....
								Under 5 ..... 5 upwards.	.....	.....	.....
								Under 5 ..... 5 upwards.	.....	.....	.....
								Under 5 ..... 5 upwards.	.....	.....	.....
TOTALS .....	143	25	7	5	5	30	71	Under 5 ..... 5 upwards.	.....	.....	.....

The subjoined numbers have also to be taken into

Deaths occurring outside the District among persons belonging thereto.....	4	—	1	—	1	—	2	Under 5 ..... 5 upwards.	.....	.....	.....
Deaths occurring within the District among persons not belonging thereto.....	24	—	—	—	—	6	18	Under 5 ..... 5 upwards.	.....	.....	.....

of EAST PRESTON classified according to Diseases, Ages, and Localities

MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN  
UNDER FIVE YEARS OF AGE.

4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Membranous Croup.	FEVERS.					Cholera.	Erysipelas.	Measles.	Whooping Cough.	Diarrhoea and Dysentery.	Rheumatic Fever.	Ague.	Phthisis.	Bronchitis, Pneumonia, Pleurisy.	Heart Disease.	Injuries.	All other Diseases.	TOTALS.
	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.													
								I						4			10	1
		I					I			I			I	4	6	3	13	3
								I	2	I				4		I	5	1
							I						5	3	2		15	2
																	3	
		I											2	2	I	I	13	2
										2				12	3		18	3
								2	2	I				8		I	18	3
		2					2			3			8	21	12	4	59	11

account in judging of the above records of mortality.

																I	I
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
																3	3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
										2					6	2	"14 24

(B)—Table of POPULATION, BIRTHS, AND OF NEW CASES OF  
of Health, during the year 1891, in the Rural Sanitary District of

Names of Localities adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.  (a)	POPULATION AT ALL AGES.  Census 1891.  (b)	Registered Births.  (c)	Aged under 5 or over 5.  (e)	NEW CASES OF COMING TO THE KNOW O				
				1 Small Pox.	2 Scarlatina.	3 Diphtheria.	4 Membranous Group.	5 Typhus.
Worthing sub-district .....	3261	93	Under 5 ..... 5 upwards.					
Littlehampton sub-district .....	3285	110	Under 5 ..... 5 upwards.					
Arundel sub-district .....	1914	41	Under 5 ..... 5 upwards.		1	1		
East Preston Workhouse .....	162		Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
TOTALS .....	8692	244	Under 5 ..... 5 upwards.		1	1		



INFECTIOUS SICKNESS, coming to the knowledge of the Medical Officer  
EAST PRESTON; classified according to DISEASES, AGES and LOCALITIES.

[illegible]

is compulsory in the District.

MIDHURST  
RURAL SANITARY DISTRICT.

---

pp. 91 et seq

## RURAL SANITARY DISTRICT OF MIDHURST.

---

POPULATION IN 1871 .....	13,042
„ „ 1881 .....	13,965
„ „ 1891 .....	14,235
AREA IN ACRES .....	66,571
NUMBER OF HOUSES IN 1871 .....	2,623
„ „ 1881 .....	2,797
„ „ 1891 .....	2,909

### POPULATION.

The recent census returns show an increase of 270 persons over 1881, but this increase is much less than in the previous decade. The increase in Midhurst sub-district is chiefly due to the growth of Easebourne, while in the rest of the parishes, but few changes are to be noticed.

The actual figures are these :—

	1871.	1881.	1891.
Midhurst sub-district .....	6059	6573	6834
Fernhurst sub-district .....	2226	2435	2514
Harting sub-district .....	4757	4957	4887
	<hr/>	<hr/>	<hr/>
Total	13042	13965	14235
Increase		923	270

There are 28 parishes included in this agricultural district ; in 14 parishes there has been an increase, and in 14 parishes there has been a decrease.



The number of inhabited houses has increased by 108. There are 94 more houses in the Midhurst, 1 more in the Fernhurst, and 13 more in the Harting and sub-district. The above figures are, however, subject to revision.

The returns for each parish give the following results :—

*Midhurst sub-district :—*

	1871.	1881.	1891.
East Lavington.....	210	221	191
West Lavington .....	195	151	218
Tillington .....	843	886	871
Lodsworth .....	660	682	645
Selham .....	34	49	48
Heyshott .....	386	448	393
Graffnam .....	435	413	407
Cocking .....	493	574	449
Midhurst .....	1465	1615	1674
Woolbeding .....	306	362	361
Easebourne .....	881	1016	1391
South Ambersham .....	151	124	186

*Fernhurst sub-district :—*

North Ambersham .....	168	167	170
Lurgashall .....	742	732	750
Fernhurst .....	897	1091	1114
Linchmere .....	308	346	380
Linch .....	111	99	100

*Harting sub-district :—*

Stedham .....	502	541	558
Iping .....	521	523	530
Trotton .....	399	405	451
Chithurst .....	295	334	297
Terwick .....	132	185	190
Rogate .....	999	986	953
Harting .....	1277	1274	1279
Elsted .....	175	208	191
Treyford .....	143	147	114
Didling .....	94	85	61
Bepton .....	220	269	263

## BIRTHS AND BIRTH-RATE.

During the year 1891, the births of 353 children were registered, of these 199 were male and 154 were female.

Estimating the population in the middle of the year at 14,325, the birth-rate was equal to 24·7 per 1000 persons living.

The births and birth-rate in the district during the past ten years have been as follows :—

Year.	Births.	Birth-rate.	Year.	Births.	Birth-rate.
1882 ...	438	31·0	1887 ...	345	24·3
1883 ...	402	28·5	1888 ...	399	28·0
1884 ...	419	29·6	1889 ...	366	25·7
1885 ...	406	28·6	1890 ...	348	24·4
1886 ...	419	29·5	1891 ...	353	24·7

The mean number of births is 389, and the mean birth-rate is 27·4 per 1000 of population.

In England and Wales the birth-rate during the year was 31·4 per 1000 persons living, a rate 1·2 per 1000 higher than that in 1890, which was the lowest on record.

The following table shows the births and birth-rate in each locality during the past year :—

	Births.	Birth-rate.	Population.
Midhurst Parish .....	41	24·5	1674
Rest of Midhurst sub-district ...	132	25·6	5160
Fernhurst sub-district .....	65	25·8	2514
Harting sub-district .....	115	23·5	4887
Total .....	353	24·7	14,235

## GENERAL MORTALITY.

There were 267 deaths registered in this district during the year 1891, and of these, ten took place in Easebourne Workhouse. These ten deaths have been distributed among the several parishes whence each inmate came, viz., Tillington, 2; Graffham, 1; Easebourne, 1; Fernhurst, 2; Stedham, 1; Iping, 1; Harting, 1; Bepton, 1; in all, 10.

Estimating the population in the middle of the year at 14,235, the death-rate was equal to 18·7 per 1000 persons living.

In country districts throughout England and Wales the rate of mortality in 1891 was 18·5 per 1000 of population.

The variations in the death-rate during the past ten years have been as follows :

Year.	Deaths.	Death-rate.	Year.	Deaths.	Death-rate.
1882 ...	240	17·0	1887 ...	219	15·4
1883 ...	188	13·3	1888 ...	191	13·4
1884 ...	230	16·2	1889 ...	157	11·0
1885 ...	233	16·4	1890 ...	191	13·4
1886 ...	243	17·1	1891 ...	267	18·7

The mean number of deaths is 215·9, and the mean death-rate is 15·2 per 1000 of population.

There have been during this decade 3895 births, so that the natural increase of population by excess of births over deaths was 1736. The actual increase as shown by the Census returns was 270, so that a large number of persons must have left the district.

The following table shows the deaths and death-rate in each locality during the past year.

	Deaths.	Death-rate.	Population.
Midhurst Parish .....	39	23·3	1674
Rest of Midhurst sub-district...	108	20·9	5160
Fernhurst sub-district .....	43	17·1	2514
Harting sub-district.....	77	15·7	4887
Total.....	267	18·7	14,235

In each parish the deaths were thus distributed :—

East Lavington .....	1	...	Fernhurst .....	20
West Lavington.....	7	...	Linchmere.....	6
Tillington .....	29	...	Linch .....	4
Lodsworth .....	18	...	Stedham.....	10
Selham .....	none	...	Iping .....	14
Heyshott .....	6	...	Trotton .....	3
Graffham .....	9	...	Chithurst .....	5
Cocking .....	6	...	Terwick .....	2
Midhurst .....	39	...	Rogate .....	17
Woolbeding .....	6	...	Harting .....	20
Easebourne .....	24	...	Elsted .....	none
South Ambersham	2	...	Treyford .....	2
North Ambersham	none	...	Didling .....	none
Lurgashall .....	13	...	Bepton .....	4
Total.....	267			

### INFANT MORTALITY.

The *infant mortality* is here given as measured by the number of deaths under one year of age to the total number of births in the year :—

	Births.	Deaths under one year.	Ratio to 1000 Births.	Ratio 1890	Ratio 1889
Midhurst Parish .....	41	10	244	136	47
Rest of Midhurst s.d. ...	132	17	129	50	86
Fernhurst sub-district .....	65	8	123	76	59
Harting sub-district .....	115	10	87	109	55
Total	353	45	127	86	66



In England and Wales the proportion of deaths under one year of age to registered births was 149 per 1,000 during the past year, the mean proportion in the preceding ten years having been 142.

The 45 *infantile* deaths included 4 from whooping-cough, 1 from hydrocephalus, 5 from convulsions, 11 from bronchitis, 1 from enteritis, eight from debility, three from marasmus, and 2 from malformation; one infant was drowned, and nine were born prematurely.

### ZYMOTIC MORTALITY.

The deaths from zymotic diseases were 5 in the case of those which are notifiable, and 10 in the other class where the number of cases cannot be obtained.

	Cases	Deaths
Small-pox .....	none	none
Scarlatina .....	2	none
Diphtheria .....	64	4
Membranous Croup.....	1	1
Fever {	Typhus .....	none
	Enteric .....	6
	Continued .....	2
	Relapsing .....	none
	Puerperal .....	none
Cholera .....	none	none
Erysipelas .....	7	none
Total	82	5

In the other class the deaths were as follows :—

	Deaths.
Measles .....	1
Whooping-cough .....	7
Diarrhœa and Dysentery .....	none
Rheumatic Fever .....	2
Total	10

Adding the two classes together, there is a total of 15 deaths with a zymotic mortality of 1.05 per 1000.

DIPHTHERIA.—Of the 64 cases notified as diphtheria, as many as 57 occurred in Tillington, 2 in Midhurst, 1 in Heyshott, 2 in Easebourne, and 2 in Woolbeding.

There were cases notified from Tillington in each month of the year, except in September; there was 1 case in February in Midhurst, and the remaining 6 occurred in October and November. In each quarter the cases were as follows:—

	1st Qr.	2nd Qr.	3rd Qr.	4th Qr.	Total
Tillington .....	18	15	11	13	57
Midhurst .....	1	...	...	1	2
Easebourne .....	...	...	...	2	2
Heyshott .....	...	...	...	1	1
Woolbeding .....	...	...	...	2	2
Total	—	—	—	—	—
	19	15	11	19	64

The deaths in each quarter were thus distributed:—

	1st Qr.	2nd Qr.	3rd Qr.	4th Qr.	Total.
Tillington .....	...	1	...	...	1
Midhurst .....	1	...	...	1	2
Easebourne .....	...	...	...	1	1
Heyshott .....	...	...	...	...	none
Woolbeding .....	...	...	...	...	none
Total	—	—	—	—	—
	1	1	...	2	4

Thus in 4 parishes there were 7 cases and 3 deaths, or a mortality of nearly 43 per cent., while in another parish there were 57 cases and only one death, or a mortality of nearly 2 per cent. of those attacked.

The 7 cases in the 4 parishes occurred in 5 houses at long distances apart, and there was no further spread of the disease.

The 57 in Tillington occurred in 28 houses, and they were scattered all over the parish, and they were met with all through the year. They were met with in houses which were clean and neat, and also in cottages which were dirty and badly kept. Cases were found under all conditions of cold and hot weather, and of damp or dry weather. Sometimes only one child in a family was attacked, and sometimes other children in the same house fell ill weeks or even months after the first case had recovered. There was no disease found amongst the cows yielding milk, nor amongst cats, rabbits or poultry. School attendance seemed to have no influence, so that the school was not closed, but those who had sore throats were kept at home for a short time.

As may be judged from the mortality, the cases were of a very mild character ; frequently, the child attacked was not ill enough to be kept in bed, and in some cases, the children affected were out for a walk or playing in the garden when the houses were visited.

58 of the patients were over five and six were under five years of age ; most of the children attacked were between five and fifteen years of age ; while three adults above that age also had the disorder.

In each case, the house was cleansed, disinfected or limewashed after the illness had ceased.

### WATER SUPPLY.

Ten samples of water were sent for analysis, and all of them were found to be fit for drinking purposes ; in one case an iron pipe was replaced by a leaden one, as the iron one was so much corroded by the water

In twelve cases, water certificates were granted for new houses under the Public Health (Water) Act, 1878. Nothing has been done with regard to providing a good supply of water to Midhurst.

The people have to trust in nearly all cases to dug wells, dipping holes, land springs, and in a few cases to deep wells sunk in the chalk. Many of the springs which break from the chalk formation supply excellent water. On the lower greensand, the water is soft and good, but it often contains an unpleasant quantity of iron.

Easebourne is the only place that has a public supply of water, and this was given by Lord Egmont many years ago. To the north of the village there is a fine spring, which yields in all seasons an abundant quantity. Near the spring a small reservoir has been built, which contains two tanks, whereby any sandy particles can be arrested, and in the second tank there is a perforated metal plate, through which the water must pass before it enters a leaden pipe which conveys water along the whole length of the village. Standpipes at frequent intervals enable the inhabitants to draw the amount of water they require, and they obtain it free of any cost.

The excess of water from this spring flows by overflow pipes in open channels down the village street.



The water from a standpipe near the reservoir was analysed by Mr. Otto Hehner, the Public Analyst, in November, 1891, with the following result :—

100,000 parts were found to contain :—

Chlorine	...	...	...	...	2.65
Sulphuric acid	...	...	...	...	1.40
Nitric acid	...	...	...	...	1.80
Phosphoric acid	...	...	...	...	trace
Free ammonia	...	...	...	...	0.0016
Albumenoid ammonia	...	...	...	...	0.0114
Total solids	...	...	...	...	16.56
Loss on ignition	...	...	...	...	3.36

The above analysis proves the water to be a very soft one, the proportion of dissolved mineral matters being very small. The chemical character of the water is rather that of a running stream, than that of spring water. It contains rather more organic matter than is desirable in drinking water, but the analysis does not afford any evidence that this organic matter is derived from sewage or other animal pollution. From the description given me of the manner in which the water is conveyed from the spring to its destination, and from the results of the analysis, I fear that some surface water has found its way into the conduit, somewhat deteriorating the quality of the supply. It would be highly desirable to examine a sample of the water taken direct from the spring, in order to ascertain whence the organic matter is received, and thus to obtain the means to exclude it. If this defect could be remedied, the water would, in my opinion, become one of unexceptionable quality.

## DRAINAGE.

Nothing has been done with regard to the drainage of Midhurst, and it remains in the same condition as described in my annual report for 1888. Many schemes have been proposed and discussed during the last fifteen years, but all have been objected to on the score of expense. The present drains are very insufficient, and there is much offensive matter deposited at the two main outfalls.

There is great difficulty in obtaining any land near on which the sewage can be utilised. The last scheme proposed, dealt with the sewage of the North part of the town only; this scheme, though inadequate would have brought about a great improvement.

Midhurst receives many visitors, and the country around is so picturesque, that it is a matter of great regret that the inhabitants

cannot undertake an efficient system of water supply and sewerage which would do away with many sanitary defects which cannot otherwise be dealt with.

In the rest of the parishes there is no necessity for any system of sewerage works, as the houses are mostly provided with plenty of garden ground on which house refuse can be dealt with. Earth closets are being slowly adopted, and all old cesspools are being abolished. As a rule, the cottage property in this district is well looked after, and the houses are in good sanitary condition. Occasionally an old cottage is pulled down, and a few new ones are built, but except at Midhurst and Easebourne building operations are seldom carried on.

### SYSTEMATIC INSPECTION.

The routine work of the year is shown by the following list which is taken from the report of the sanitary inspector. Most of the nuisances were of a minor character, and the work consisted chiefly in looking after the sanitary surroundings of the houses, in cleansing and limewashing dirty rooms, in removing filth accumulations, in improving and cleansing of closets, and in attending to the water supply.

No. of Houses inspected	...	...	...	270
No. of Nuisances reported	...	...	...	102
No. of Nuisances abated without notice	...	...	...	56
No. of Nuisances abated with notice	...	...	...	46
Houses unfit for human habitation	...	...	...	1
Houses cleansed and disinfected	...	...	...	27
Houses cleansed and limewashed	...	...	...	32
Water certificates granted for new houses	...	...	...	12
Wells dug	...	...	...	7
Tanks provided	...	...	...	none
Wells closed	...	...	...	none
Wells cleansed out	...	...	...	10
Overcrowding cases reported	...	...	...	1
Overcrowding cases abated	...	...	...	1
Unwholesome food seized	...	...	...	none
Legal proceedings taken	...	...	...	1
New closets erected	...	...	...	14
Old closets converted	...	...	...	6
Earth closets provided	...	...	...	5
Samples of water sent for analysis	...	...	...	10
Samples of water polluted	...	...	...	none

## BYE-LAWS

Bye-laws were made in 1888, in respect to new streets and buildings for the contributory places of Midhurst, Easebourne, Bepton, and West Lavington. They were allowed by the Local Government Board on Nov. 24th, 1888.

No regulations or bye-laws have been made with regard to scavenging or cleansing, or with regard to slaughterhouses in any portion of the district.

The Infectious Disease (Notification) Act came into operation on Jan. 1st, 1890, but there is no isolation hospital to which persons can be taken.

The COWSHEDS AND DAIRIES are kept clean, and provided with good water, light and ventilation. As in many country districts, the cows are kept in the meadows all day for the greater part of the year, and they are not confined as they are in large towns.

MARGARINE is sold in a few shops, and it is sold in accordance with the requirements of the Act.

The BAKEHOUSES are limewashed twice a year, they are very well kept, and in no case is there any drain within the building.

The SLAUGHTERHOUSES are very fairly kept, and any refuse or offal is removed as soon as possible ; the walls are regularly lime-washed.

One case of OVERCROWDING was abated during the year by some of the children leaving the house.

No ARTICLES OF FOOD were condemned during the year.

## PROCEEDINGS BEFORE THE MAGISTRATES.

An owner of house property at Midhurst was summoned in May, 1891, for not abating a nuisance caused by a drain becoming choked ; he was fined 6d. and 17s. cost, and an order was made to abate the nuisance. The order was not obeyed, so the same owner was again summoned a month later, when he was fined £1 and 19s. costs. The nuisance was soon afterwards abated by the sanitary authority doing the work.



## INQUESTS.

INQUESTS were held in 13 cases :—Female, 20 years, ulcer in the stomach ; male, 1 day, convulsions ; female, 37 years, brain disease ; male, 64 years, found drowned ; male, 66 years, heart disease ; female, 38 years, suicide by drowning ; female, 7 months, drowned ; male, 26 years, tuberculous ; female 7 months, hydrocephalus ; male 23 years, accidentally shot ; male, 75 years, suicide by drowning ; male, 60 years, found drowned ; male, 19 hours, debility.

There were five deaths returned as “not certified” out of a total of 267 deaths :—Female, 2 hours, prematurely born ; female, 46 years, dropsy ; male, 3 hours, prematurely born ; male, 76 years, apoplexy ; male, 19 months, convulsions.

## MIDHURST RURAL SANITARY DISTRICT.

TABLE 1.—Showing the Deaths at various groups of ages in the ten years, 1882-91.

Year.	At all Ages.	Under 1 Year.	1 to 5.	5 to 15.	15 to 25.	25 to 60.	60 and over.
1882.....	240	53	28	21	10	53	75
1883.....	188	27	14	7	13	42	85
1884.....	230	38	24	11	16	54	87
1885.....	233	32	23	15	17	47	99
1886.....	243	47	24	14	12	49	97
1887.....	219	23	18	10	14	50	104
1888.....	191	26	21	9	6	53	76
1889.....	157	24	11	4	7	46	65
1890.....	191	30	14	6	6	41	94
1891.....	267	45	26	16	10	45	125
Total .....	2159	345	203	113	111	480	907

TABLE 2.—Showing the Deaths and Death-rate in each of the ten years, 1882-91, from Zymotic Diseases.

YEAR.	Small Pox.	Measles.	Scarlatina.	Diphtheria.	Whoop-cough.	Con. Fevers.			Diarrhoea and Dysentery.	Rheumatic Fever.	Erysipelas.	Pyæmia.	Puerperal Fever.	TOTAL.	Rate per 1000 persons living.
						Typhus.	Enteric.	Other.							
1882	...	5	7	9	6	...	1	...	1	1	2	...	...	32	2.2
1883	5	...	3	2	2	...	1	...	3	...	...	...	...	16	1.1
1884	...	...	7	2	3	...	2	...	1	...	3	...	...	18	1.2
1885	1	2	2	10	1	...	...	...	4	2	3	...	...	25	1.7
1886	...	8	...	8	4	...	7	...	1	1	...	...	1	30	2.0
1887	...	2	...	1	2	...	1	...	1	2	1	...	...	10	0.6
1888	...	...	1	3	11	...	1	...	...	...	...	...	1	17	1.1
1889	...	1	...	...	3	...	2	...	1	1	...	...	...	8	0.5
1890	...	...	1	...	3	...	1	...	2	...	...	...	...	7	0.4
1891	...	1	...	5	7	...	...	...	...	2	...	...	...	15	1.0
Tl.	6	19	21	40	42		16		14	9	9		2	178	1.2





(A)—Table of DEATHS during the Year 1891, in the Rural Sanitary District

Names of Localities adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.  (a)	MORTALITY FROM ALL CAUSES, AT SUBJOINED AGES.							(i)	1	2
	At all ages. (b)	Under 1 year. (c)	1 and under 5. (d)	5 and under 15. (e)	15 and under 25. (f)	25 and under 60. (g)	60 and upwards. (h)		Small Pox. (i)	Scarlatina. (j)
Midhurst Parish .....	39	10	5	2	1	8	13	Under 5 ..... 5 upwards.		
Rest of Midhurst sub-district	104	17	9	9	5	21	43	Under 5 ..... 5 upwards.		
Fernhurst sub-district .....	41	8	2	3	1	6	21	Under 5 ..... 5 upwards.		
Harting sub-district .....	73	10	10	2	3	10	38	Under 5 ..... 5 upwards.		
Easebourne Workhouse .....	10	—	—	—	—	—	10	Under 5 ..... 5 upwards.		
								Under 5 ..... 5 upwards.		
								Under 5 ..... 5 upwards.		
								Under 5 ..... 5 upwards.		
								Under 5 ..... 5 upwards.		
TOTALS .....	267	45	26	16	10	45	125	Under 5 ..... 5 upwards.		

The subjoined numbers have also to be taken

Deaths occurring outside the District among persons belonging thereto.....	—	—	—	—	—	—	—	Under 5 ..... 5 upwards.		
Deaths occurring within the District among persons not belonging thereto.....	—	—	—	—	—	—	—	Under 5 ..... 5 upwards.		

[illegible][illegible]

(B)—Table of POPULATION, BIRTHS, AND OF NEW CASES OF  
of Health, during the year 1891, in the Rural Sanitary District

Names of Localities adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.  (a)	POPULATION AT ALL AGES.  Census 1891.  (b)	Registered Births.  (d)	Aged under 5 or over 5.  (e)	NEW CASES COMING TO THE KNOWLEDGE OF THE LOCAL AUTHORITY				
	1 Small Pox.			2 Scarlatina.	3 Diphtheria.	4 Membranous Croup.	5 Whooping Cough.	
Midhurst Parish .....	1647	41	Under 5 ..... 5 upwards.			1		
Rest of Midhurst sub-district ...	5065	129	Under 5 ..... 5 upwards.			6 57	1	
Fernhurst sub-district .....	2514	65	Under 5 ..... 5 upwards.		2			
Harting sub-district .....	4887	115	Under 5 ..... 5 upwards.					
Easebourne Workhouse .....	95	3	Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
TOTALS .....	14235	353	Under 5 ..... 5 upwards.		2	6 58	1	



INFECTIOUS SICKNESS, coming to the knowledge of the Medical Officer  
MIDHURST ; classified according to DISEASES, AGES and LOCALITIES.

[illegible]

is compulsory in the District.

WESTBOURNE  
RURAL SANITARY DISTRICT.

---

pp 109 et seq

## RURAL SANITARY DISTRICT OF WESTBOURNE.

---

POPULATION IN 1871 .....	7,221
"      "      1881 .....	7,420
"      "      1891 .....	7,084
AREA IN ACRES .....	32,040
NUMBER OF HOUSES IN 1871 .....	1,495
"              "      1881 .....	1,533
"              "      1891 .....	1,515

### POPULATION.

The population, which slightly increased from 1871 to 1881, showed a great decline in the last decade. In eight parishes there was a decrease in 1891 over 1881; in three there was a slight increase, and in one parish the figures were the same on each census-taking. There are only eighteen fewer inhabited houses, so that there is probably less overcrowding than before. The population is chiefly agricultural, but some along the coast, as at Bosham, are engaged in fishing and boating.

It will probably be found that agricultural depression is the chief cause of the decrease, and that young adults leave the district to obtain employment elsewhere.



The figures for each parish are here given.

	1871.	1881.	1891.
West Dean .....	683	732	611
East Marden .....	81	91	74
North Marden .....	27	39	39
Up Marden .....	365	336	310
Stoughton.....	603	626	604
Compton .....	286	289	268
Racton .....	97	97	100
Funtington .....	1065	1158	1020
Bosham .....	1184	1255	1258
Chidham .....	314	266	241
West Thorney .....	181	131	150
Westbourne .....	2335	2450	2409
	<hr/>	<hr/>	<hr/>
Total.....	7221	7420	7084
		Inc. 199.	Dec. 336

### BIRTHS AND BIRTH-RATE.

During the year 1891, the births of 194 children were registered; of these 106 were male and 88 were female.

Estimating the population in the middle of the year at 7,084, the birth-rate was equal to 27·4 per 1000 persons living.

The births and birth-rate in the district during the last ten years have been as follows :—

Year.	Births.	Birth-rate.	Year.	Births.	Birth-rate.
1882 ...	213 ...	28·8	1887 ...	225 ...	31·1
1883 ...	215 ...	29·2	1888 ...	204 ...	28·4
1884 ...	222 ...	30·3	1889 ...	203 ...	28·4
1885 ...	212 ...	29·0	1890 ...	207 ...	29·1
1886 ...	208 ...	28·6	1891 ...	194 ...	27·4

The mean number of births is 210, and the mean birth-rate is 29·0 per 1000 of population.

In England and Wales the birth-rate during the year was 21·4 per 1000 persons living, a rate of 1·2 per 1000 higher than that in 1890, which was the lowest on record.

The following table shows the births and birth-rate in each locality during the past year —

	Births.	Birth-rate.	Population.
Funtington Parish .....	27	26·4	1020
Bosham Parish .....	52	41·3	1258
Westbourne Parish .....	59	24·4	2409
Rest of Westbourne District .....	56	23·3	2397
	<hr/>	<hr/>	<hr/>
Total.....	194	27·4	7084

## GENERAL MORTALITY.

There were 124 deaths registered in this district during the year 1891, and of these 15 took place in Westbourne Workhouse. These deaths have been distributed amongst the several parishes whence each inmate came, viz.:—Stoughton, 1; Compton, 2; Funtington, 2; Bosham, 3; Westbourne, 7; in all, 15.

Estimating the population in the middle of the year at 7,084, the death-rate was equal to 17·5 per 1000 persons living.

In country districts throughout England and Wales the rate of mortality in 1891 was 18·5 per 1000 of population.

The variations in the death-rate during the past ten years have been as follows :

Year.	Deaths.	Death-rate.	Year.	Deaths.	Death-rate.
1882 ...	118	15·9	1887 ...	108	14·9
1883 ...	120	16·3	1888 ...	96	13·4
1884 ...	97	13·2	1889 ...	89	12·4
1885 ...	125	17·1	1890 ...	97	13·6
1886 ...	132	18·2	1891 ...	124	17·5

The mean number of deaths is 110·6, and the mean death-rate is 15·2 per 1000 of population.

There have been during the decade 2103 births, so that the natural increase of population by excess of births over deaths was 997. The Census returns, however, shows a *decrease* of 336, so that large numbers must have left the district in the past decade.

The following table shows the deaths and death-rate in each locality during the past year.

	Deaths.	Death-rate.	Population.
Funtington Parish .....	12	11·7	1020
Bosham Parish .....	22	17·5	1258
Westbourne Parish .....	51	21·1	2409
Rest of Westbourne District...	39	16·9	2397
Total .....	124	17·5	7084

In each parish the deaths were thus distributed :

West Dean.....	11	...	Racton .....	none
East Marden .....	2	...	Funtington.....	12
North Marden .....	2	...	Bosham .....	22
Up Marden .....	4	...	Chidham .....	6
Stoughton <sup>1</sup> .....	9	...	West Thorney .....	1
Compton .....	4	...	Westbourne .....	51
Total.....	124			

## INFANT MORTALITY.

The *infant mortality* is here given as measured by the number of deaths under one year of age to the total number of births in the year:—

	Births	Deaths under one year	Ratio to 1000 Births	Ratio 1890	Ratio 1889
Funtington Parish .....	27	none	none	none	33
Bosham Parish .....	52	3	58	20	45
Westbourne Parish.....	59	10	170	71	54
Rest of Westbourne District	56	4	71	104	127
Total .....	194	17	87	63	69

In England and Wales the proportion of deaths under one year of age to registered births was 149 per 1000 during the past year, the mean proportion in the preceding ten years having been 142.

The 17 *infantile deaths* included 2 from whooping-cough, 1 from erysipelas, 3 from convulsions, 2 from bronchitis, 3 from debility, 3 from marasmus, and 1 from malformation; 2 infants were born prematurely.

## ZYMOTIC MORTALITY.

There were 12 deaths registered as due to zymotic disease, thus giving a mortality at the rate of 1·69 per 1000 persons living.

There were six deaths from diphtheria, three from whooping cough, one from enteric fever, one from diarrhoea, and one from erysipelas.

The Infectious Diseases (Notification) Act, 1889, did not come into operation until December 31st, 1891, so that no cases were notified during the year.

The Infectious Diseases (Prevention) Act, 1890, also came into operation the same day.

There is no isolation hospital in the district.

DIPHTHERIA caused three deaths in Westbourne parish, and three deaths in Bosham parish. In one well-built clean house there lived a gardener with his wife and five children; there were no drains in the house, and the earth closet was well looked after, and the pail under the seat was frequently emptied. The sanitary surroundings of the house were very good. The mother was first taken ill with a sore throat, then three children fell ill, and the father was also attacked in a similar way. One girl, 8 years old,



died on January 2nd from laryngitis and bronchitis, and a boy, 16 months old, died on January 10th from diphtheria. A person who came to nurse, also had a sore throat, but they were all well again by the end of January.

In another clean dry house, occupied by the parents and two young children, there were no sanitary defects, and the surroundings were good. One child, 3 years old, was attacked with diphtheria on January 2nd, and she died on January 5th. A sister, 7 months old, fell ill on January 5th, but she recovered.

This house was one of a row of four, but none of the other inmates were attacked.

At Westbourne Workhouse, two girls, each 5 years old, had sore throats und croupy breathing on January 5th, and one of them died on January 9th. The children were isolated, and no other cases occurred. The sanitary arrangements were here good. There was no illness amongst the cows supplying the milk, and many who drank from the same milk supply were unaffected. The children lived at a considerable distance apart, and there was no direct communication between them. The weather at the time was very severe, and the cases occurred in the middle of a hard frost which lasted fifty days.

There were no fresh cases of diphtheria until the end of August, when a girl, 5 years old, died from it at Clay Lane, Bosham. In the month of November there were several cases of sore throat amongst children attending Old Fishbourne School. In one cottage occupied by the parents and four children, a boy, 9 years old, was taken ill with a sore throat on November 1st, and between November 15 and 18, his three elder brothers, aged respectively 11, 15 and 17, had diphtheria. The lad, 15 years old, died after a few days' illness, but the rest recovered. In two other houses near the above, three children had sore throats, but they were soon well again. At an old isolated farm house at Walton in Bosham parish there dwelt the parents and six children; a boy, 11 years old, had diphtheria on November 17th, but he soon got well again; then a sister, 3 years old, had a sore throat. Four other children, aged respectively 13, 9, 5 and 15 months escaped.

The school was closed on November 20th, for a fortnight, and then the illness ceased.

At a lonely cottage, in an exposed situation in the same parish, the mother and five children had sore throats; the father was slightly affected, but the other four children escaped. The first case, a boy of 14 years old, had pains in the head and face and swollen glands about the third week in September; a brother, 12 years old, was poorly a week afterwards in a similar way, and a

week later, a sister, 2 years old, was unwell. On October 20th, a brother, 7 years old, was taken more seriously ill, and then medical advice was sought. Both of these boys had been to Old Fishbourne School, but the last mentioned one had only been there on Oct. 20th, and on that day, he played marbles in the street with the brother of a boy who had a sore throat.

Most of these cases were not at first called diphtheria, but they were doubtless cases of infective sore throat, and the spread was caused by school attendance. In each case the usual precautions were taken, and the houses were cleansed and fumigated.

### WATER SUPPLY.

There is no public water supply for any place in this district. The people chiefly depend on wells, which vary in depth according to the nature of the soil; a great many obtain water from the numerous streams which break forth from the chalk hills and run towards the sea.

At Bosham I proposed a plan some years ago by which good water could be cheaply and easily obtained, but the inhabitants were strongly opposed to any new scheme, and most of them draw water from a stream just before it flows through the village.

At the hamlet of Hermitage, I also proposed that good water should be brought from the Emsworth public supply across the bridge, that the people could be supplied from a few stand pipes. The matter was often discussed, but the proposed cost was so great that nothing further was done in the matter.

In the scattered villages, the water is as a rule of good quality. Six samples of water were sent to me for analysis; four were wholesome, one was polluted by sewage, and one was too brackish for use.

Much of the water in wells near the coast is too brackish for drinking purposes, so that people prefer to go to some neighbouring stream, although such water is always liable to pollution from the manuring of cultivated land, the flow of dirty water from the road, etc.

### DRAINAGE.

There is no public system of sewerage in any parish in this district. The most defective places are Westbourne, Bosham and Hermitage, which is a small hamlet in Westbourne parish.

At Westbourne there is an open channel along the main street of the village, down which a small stream is always running as an

overflow from a mill-pond to the north. In very dry weather the water is sometimes cut off. In the centre of the village, for about 200 yards through the Square, this channel was many years ago covered over, and since then the dirty house water from about 38 houses round or near the Square has drained into it. Beyond the Square the open channel is resumed, and after passing round the Church the water, more or less polluted, runs into a small stream called the Ems. No nuisance is caused when a good flow of water can be obtained, but in dry and hot weather, a nuisance is at times caused by this dirty water flowing down the open channel. In 1887, the drain was relaid through the Square by the waywardens at a cost of about £230. This expense was borne by an increased highway rate on the parish, of 6d. in the £1 for one year.

By an arrangement with the owner of the mill to the north, a constant supply of water was to be provided on a payment from the parish of £10 a year. A man was also engaged to cleanse the open channel frequently, and these charges amount to an annual rate of about 3d. in the £1.

At the small hamlet of Hermitage much dirty house water flows into the shallow wide stream near Emsworth Bridge, and in the course of years a large accumulation of black mud has been formed, which is very offensive at low water. This matter has often been brought to the attention of the Sanitary Authority, and the question of cleaning out the stream has often been discussed, but as yet nothing has been done. The population is a poor one, and no land can be obtained for irrigation purposes. If the sewage were collected in cesspools, the stream would become purer, but there would be much risk of polluting the water in the wells.

At Bosham, the chief defect arises from the want of scavenging. All kinds of rubbish are thrown on to the beach of the creek, so as to be washed away by the next tide. I have recommended that a contract should be entered into to remove all house refuse at regular intervals under sect. 42 of the Public Health Act, 1875.

## SYSTEMATIC INSPECTION.

A fair amount of work was done during the year, and the following summary is taken from the Sanitary Inspector's book.

A number of minor nuisances are not reported, as they were abated at once, on a verbal order or caution being given.



The following is a summary of the work done by the Sanitary Inspector during the year :

No. of houses visited	...	...	...	121
No. of nuisances reported	...	...	...	42
No. of nuisances abated	...	...	...	40
No. of notices served	...	...	...	42
Houses reported unfit for habitation	...	...	...	none
Houses cleansed and disinfected	...	...	...	15
Houses cleansed and limewashed	...	...	...	7
Cases of overcrowding reported	...	...	...	1
Cases of overcrowding abated	...	...	...	1
New closets erected	...	...	...	12
Old closets converted	...	...	...	none
Earth closets made	...	...	...	none
Wells sunk	...	...	...	2
Wells cleaned	...	...	...	3
Unwholesome food seized	...	...	...	none
Samples of water sent for analysis	...	...	...	6
Samples of water unfit for drinking	...	...	...	2

There is one COMMON LODGING HOUSE at Hermitage in which a few lodgers are taken ; this is very well kept.

There are now twenty registered COWSHEDS AND DAIRIES, but many of them are on a very small scale ; they are well kept.

MARGARINE is not in much demand, but in such cases the regulations of the Act are complied with.

The BAKEHOUSES are fifteen in number ; they are often inspected, and they are kept in a clean condition.

There are but two, SLAUGHTERHOUSES which are very well attended to.

No PROCEEDINGS were taken before the Magistrates during the year.

One case of OVERCROWDING was abated.

There was no case in which it was necessary to condemn meat or any other article of food.

### INQUESTS.

INQUESTS were held in six cases :—Male, 6 months, syncope ; male, 20 years, accidentally burnt ; male, 6 years, accidental fall ; male, 9 years, accidentally run over ; adult male, found dead ; male, 18 years, heart disease.

There were two deaths returned as “not certified” out of a total of 124 deaths :—Female, 48 years, cardiac syncope ; male, 65 years, aneurism of aorta,

## WESTBOURNE.

The following figures have been kindly sent to me by the Rev. L. B. Birkett from the observations taken at Westbourne Rectory :

	Rainfall in 1890.				Rainfall in 1891.				Hours of bright Sunshine.	Sunless days.
	Inches.		Rainy days.		Inches.		Rainy days.			
January	3·54	...	27	...	2·54	...	14	...	117·90	8
February	0·91	...	11	...	0·21	...	5	...	125·80	5
March	1·37	...	18	...	2·65	...	20	...	96·85	6
April	2·68	...	14	...	0·98	...	9	...	131·55	6
May	1·89	...	11	...	2·13	...	17	...	209·40	3
June	2·88	...	17	...	1·62	...	12	...	224·00	1
July	2·44	...	20	...	2·39	...	19	...	192·45	0
August	3·39	...	19	...	6·75	...	25	...	158·65	3
September	0·73	...	8	...	1·34	...	15	...	165·35	2
October	1·39	...	13	...	7·18	...	21	...	122·65	7
November	2·05	...	21	...	4·00	...	17	...	51·25	11
December	0·86	...	6	...	4·15	...	24	...	87·00	9
Total...	24·13		185		35·94		198		1682·85	61

In 1890 there were 1,773·8 hours of bright sunshine, and 68 sunless days.

## WESTBOURNE RURAL SANITARY DISTRICT.

TABLE 1.—Showing the Deaths at various groups of ages in the ten years, 1882-91.

Year.	At all Ages.	Under 1 Year.	1 to 5.	5 to 15.	15 to 25.	25 to 60.	60 and over.
1882.....	118	24	12	8	4	24	46
1883.....	120	21	12	7	7	26	47
1884.....	97	13	6	9	5	24	40
1885.....	125	20	7	6	5	26	61
1886.....	132	23	11	4	6	27	61
1887.....	108	25	7	1	9	25	41
1888.....	96	15	10	2	1	18	50
1889.....	89	14	8	3	3	20	41
1890.....	97	13	9	6	6	19	44
1891.....	124	17	10	9	7	24	57
Total .....	1106	185	92	55	53	233	488

TABLE 2.—Showing the Deaths and Death-rate in each of the ten years, 1882-91, from Zymotic Diseases.

YEAR.	Small Pox.	Measles.	Scarlatina.	Diphtheria.	Whoop-cough.	Con. Fevers.			Diarrhoea and Dysentery.	Rheumatic Fever.	Erysipelas.	Pyæmia.	Puerperal Fever.	TOTAL.	Rate per 1000 persons living.
						Typhus.	Enteric.	Other.							
1882	...	1	1	8	4	...	1	...	1	...	1	1	...	18	2.4
1883	...	...	...	3	1	...	1	...	2	...	...	...	...	7	0.9
1884	...	...	...	6	4	...	...	...	1	...	...	...	...	11	1.4
1885	...	...	...	...	...	...	10	...	2	...	1	...	...	13	1.7
1886	...	2	...	...	3	...	2	...	1	...	...	1	...	9	1.1
1887	...	...	...	...	...	...	2	...	1	...	...	...	...	3	0.4
1888	...	4	...	1	...	...	1	...	...	...	1	...	...	7	0.9
1889	...	...	...	...	9	...	2	...	...	...	...	...	...	11	1.4
1890	...	...	...	3	5	...	...	...	1	1	...	...	...	10	1.3
1891	...	...	...	6	3	...	1	...	1	...	1	...	...	12	1.7
Tl.		7	1	27	29		20		10	1	4	2		101	1.3





(A)—Table of DEATHS during the Year 1891, in the Rural Sanitary District

Names of Localities adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.  (a)	MORTALITY FROM ALL CAUSES, AT SUBJOINED AGES.							(i)	1	2	3
	At all ages. (b)	Under 1 year. (c)	1 and under 5. (d)	5 and under 15. (e)	15 and under 25. (f)	25 and under 60. (g)	60 and upwards. (h)		Small Pox. (i)	Scarlatina. (j)	Diphtheria. (k)
Funtington Parish.....	10	—	1	—	—	5	4	Under 5 5 upwards.			
Bosham Parish .....	19	3	2	5	—	5	4	Under 5 5 upwards.			3
Westbourne Parish .....	44	9	4	1	2	7	21	Under 5 5 upwards.			2
Rest of District.....	36	4	2	3	4	7	16	Under 5 5 upwards.			
Westbourne Workhouse .....	15	1	1	—	1	—	12	Under 5 5 upwards.			1
								Under 5 5 upwards.			
								Under 5 5 upwards.			
								Under 5 5 upwards.			
								Under 5 5 upwards.			
								Under 5 5 upwards.			
								Under 5 5 upwards.			
TOTALS .....	124	17	10	9	7	24	57	Under 5 5 upwards.			3

The subjoined numbers have also to be taken into

Deaths occurring outside the District among persons belonging thereto.....	—	—	—	—	—	—	—	Under 5 5 upwards.			
Deaths occurring within the District among persons not belonging thereto.....	—	—	—	—	—	—	—	Under 5 5 upwards.			

of WESTBOURNE classified according to Diseases, Ages, and Localities.

MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN  
UNDER FIVE YEARS OF AGE.

	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Group.	FEVERS.					Cholera.	Erysipelas.	Measles.	Whooping Cough.	Diarrhoea and Dysentery.	Rheumatic Fever.	Ague.	Phthisis.	Bronchitis, Pneumonia, Pleurisy.	Heart Disease.	Injuries.	All other Diseases.	TOTALS.
	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.													
																	1	1
										1				1	2		5	9
							1							1			3	3
									1							1	9	14
														3			8	13
		1											3	15			12	31
									2					3			1	6
													4	5	2	3	16	30
																	1	2
														7			6	13
							</											

count in judging of the above records of mortality.



(B)—Table of POPULATION, BIRTHS, AND OF NEW CASES C  
of Health, during the year 1891, in the Rural Sanitary District

Names of Localities adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.  (a)	POPULATION AT ALL AGES.  Census 1891.  (b)	Registered Births.  (d)	Aged under 5 or over 5.  (e)	NEW CASES COMING TO THE KNOW				
	1 Small Pox.			2 Scarlatina.	3 Diphtheria.	4 Membranous Group.	5 Typhus	
Funtington Parish.....	1020	27	Under 5 ..... 5 upwards.					
Bosham Parish .....	1258	52	Under 5 ..... 5 upwards.			5 ..... 12		
Westbourne Parish .....	2409	59	Under 5 ..... 5 upwards.			3 ..... 4		
Rest of District.....	2397	56	Under 5 ..... 5 upwards.					
Westbourne Workhouse .....	—	—	Under 5 ..... 5 upwards.			2		
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
TOTALS .....	7084	194	Under 5 ..... 5 upwards.			8 ..... 18		

INFECTIOUS SICKNESS, coming to the knowledge of the Medical Officer  
 VESTBOURNE; classified according to DISEASES, AGES and LOCALITIES.

[illegible]

is compulsory in the District.

WORTHING  
URBAN SANITARY DISTRICT.

---

pp 125 et seq



## URBAN SANITARY DISTRICT OF WORTHING.

---

POPULATION IN 1871 .....	7,401
"    "    1881 .....	11,821
"    "    1891 .....	16,606
AREA IN ACRES .....	1,405
NUMBER OF HOUSES IN 1871 .....	1,331
"    "    1881 .....	2,082
"    "    1891 .....	3,044

### POPULATION.

The population has increased very rapidly, so that the numbers now are more than twice as numerous as they were twenty years ago. In 1875, part of rural Broadwater in the Newland Road district, with about 600 inhabitants, was added to the urban area. In 1890, West Worthing and the rural part of Heene parish were added to the district when Worthing became a borough, thus causing an increase of 426 acres and nearly 1,700 people. The West Ward now corresponds to the former district of West Worthing, with the addition of 150 persons who lived in rural Heene.

Worthing is an urban area, cut out of the old parish of Broadwater. West Worthing was an urban area cut out of the old parish of Heene; this urban area was rapidly built over, while the rural area remained stationary as regards population; there were only about 30 houses and 150 persons; the whole of Heene parish, urban as well as rural, now forms the West Ward,

Worthing has thus increased its numbers by addition of area as well as by the growth of population.

The figures of these different areas at each census period are here shown :—

Year.		Total.		Worthing Urban.		West Worthing Urban.		Rural Heene.
1871	...	7,828	...	7,401	...	276	...	151
1881	...	11,821	...	10,976	...	689	...	156
1891	...	16,606	...	14,914	...	1,542	...	150

Thus it will be seen that Worthing Urban district increased by 3575 between 1871 and 1881, but these figures include the addition of 600 persons by taking in a portion of rural Broadwater. The increase from 1881 to 1891 with no change of area was 3,938. Rural Heene remained stationary, while in West Worthing district, or Urban Heene, the increase was very rapid, there being nearly six times as many people in 1891 as there were in 1871.

When, on September 3rd, 1890, Worthing became a municipal borough, the whole area was divided into five wards.

The mean number of persons in each house in each ward is here shown :—

	Houses	Mean No. of Inmates per House.
1.—Eastern Ward.....	515	5·4
2.—Central Ward.....	1,100	5·7
3.—North-Eastern Ward	572	5·6
4.—North-Western Ward	583	5·0
5.—West Ward.....	274	6·1
	<hr/>	<hr/>
Total	3044	5·4

The West Ward is the least over-crowded of all, as the houses are on the average much larger than in the rest of the district, and a large number of servants are kept; there are also two large schools which increase the average in each house.

The following figures show the number of houses and the number of inhabitants. The excess of females is well marked, and doubtless this is owing to the number of schools, lodging houses, and private residences, where several female servants are kept. There is, in this district, a vast excess of un-married females, and thus the birth-rate is low.

No.	Ward.	Inhabited Houses.	Male.	Female.	Total.
1.	Eastern.....	515	1171	1621	2792
2.	Central .....	1100	2572	3697	6269
3.	North-Eastern	572	1283	1653	2936
4.	North-Western	583	1270	1647	2917
5.	West.....	274	578	1114	1692
Total .....		3044	6874	9732	16,606

### BIRTHS AND BIRTH-RATE.

During the year 1891 the births of 392 children were registered ; of these 197 were male and 195 were female.

The birth-rate varies very much in each ward, owing to the unequal distribution of married females at child-bearing ages. The birth-rate is fairly high in the north-eastern and north-western wards, where there is much cottage property and many young married persons ; it is very low in the west ward, where there are many people who have retired from active life, and who are past child-bearing age. On the whole, the general birth-rate is very low, and it has been steadily declining since 1882, when it was 30·7.

The variations in the birth-rate in the Local Board district of Worthing for the ten years 1881-90 are here shown :—

Year.	Births.	Birth-rate.	Year.	Births.	Birth-rate.
1881 ...	324	29·2	1886 ...	366	27·7
1882 ...	355	30·7	1887 ...	327	24·5
1883 ...	313	25·7	1888 ...	322	23·3
1884 ...	352	27·8	1889 ...	362	25·6
1885 ...	327	25·0	1890 ...	338	23·1

In England and Wales the birth-rate during the year was 31·4 per 1000 persons living, a rate 1·2 per 1000 higher than that in 1890, which was the lowest on record.



In each ward, the births and birth-rate for 1891 are here shown :—

### BIRTHS.

No.	Ward.	Population.	Male.	Female.	Total.	Birth-rate. per 1000.
1.	Eastern .....	2792	33	36	69	24·7
2.	Central .....	6269	71	62	133	21·2
3.	North-Eastern ...	2936	48	46	94	32·0
4.	North-Western ...	2917	33	43	76	26·1
5.	West .....	1692	12	8	20	11·8
Total .....		16606	197	195	392	23·4

### GENERAL MORTALITY.

There were 335 deaths registered in this district during the year 1891, but to this number must be added the deaths of twelve persons belonging to this district in East Preston workhouse, which is outside the area. From this total number of 347, there must be deducted the deaths of six persons in the Worthing Infirmary who came from parishes outside the district, leaving a total of 341 deaths.

This number includes the deaths of 54 persons who are reckoned as visitors.

Estimating the population in the middle of the year at 16,722, the death-rate was equal to 20·3 per 1000 persons living ; excluding visitors, the rate was equal to 17·1 per 1000.

These rates are much in excess of any previous year, and they are coincident with a diminished birth-rate.

The variations in the death-rate in the Local Board district during the ten years previous to 1891 have been as follows :—

Year.	Deaths.		Death-Rate.	
	Including Visitors.	Excluding Visitors.	Including Visitors.	Excluding Visitors.
1881.....	170	150	15·3	13·5
1882.....	160	142	13·8	12·3
1883.....	164	151	13·4	12·4
1884.....	205	177	16·2	14·0
1885.....	178	161	13·6	12·3
1886.....	228	210	17·2	15·9
1887.....	231	206	17·3	15·4
1888.....	220	187	15·9	13·5
1889.....	179	145	12·6	10·2
1890.....	218	181	14·9	12·3

The following table shows the deaths and death-rate estimated on a population in the middle of the year of 16,722 ; it includes the deaths of all visitors and the 12 workhouse deaths.

### DEATHS.

No.	Ward.	Population.	Male.	Female.	Total.	Death rate per 1000.
1.	Eastern .....	2792	20	32	52	18·6
2.	Central .....	6269	66	70	136	21·7
3.	North-Eastern ...	2936	34	38	72	24·5
4.	North-Western ...	2917	28	28	56	19·2
5.	West .....	1692	7	18	25	14·8
		16,606	155	186	341	20·3

The death-rate in the Central Ward was raised by the number of aged persons who died ; the death-rate in the North-Eastern ward was raised by the mortality amongst young children from measles.

The mortality in each quarter of the past year is here shown :—

	Male	Female.	Deaths.	Total 1889.	Total 1890.
First Quarter .....	51	56	107	49	61
Second Quarter ... ..	38	36	74	37	59
Third Quarter.....	27	29	56	46	50
Fourth Quarter .....	39	65	104	62	65
Total .....	155	186	341	194	235

A comparison is here made of the deaths in each quarter of 1889 and 1890 of persons dwelling on the same area as in 1891 ; the increase is very marked in each quarter, but especially in the first and last quarters.

The excessive mortality was due to the deaths of young children and aged people. The mortality amongst those of middle age was not much higher than usual.

	Under 1 year	1 to 5	5 to 15	15 to 25	25 to 60	60 and upwards	Total
First Quarter.....	19	23	6	2	21	36	107
Second Quarter	8	9	4	3	23	27	74
Third Quarter ...	10	3	4	3	17	19	56
Fourth Quarter...	18	9	2	1	31	43	104
Total...	55	44	16	9	92	125	341

There have been during the last decade 3595 births and 2236 deaths, so that the natural increase of population by excess of births over deaths was 1359. The actual increase has been 4785, so that large numbers of people must have migrated into this district during this period.

These figures are arrived at by comparing the population on the present area at the two census periods.

### INFANT MORTALITY.

The *infant mortality* is here given as measured by the number of deaths under one year of age to the total number of births in the year :—

No.	Ward.	Births.	Deaths under one year.	Ratio to 1000 Births.
1.	Eastern .....	69	6	87
2.	Central.....	133	17	127
3.	North-Eastern .....	94	16	170
4.	North-Western.....	76	12	158
5.	West.....	20	4	200
Total.....		392	55	140

The rate of infant mortality in the Local Board District for the previous ten years was in

Year.	Ratio.	Year.	Ratio.
1881 ...	86	1886 ...	147
1882 ...	95	1887 ...	100
1883 ...	105	1888 ...	93
1884 ...	122	1889 ...	77
1885 ...	88	1890 ...	136

Giving a mean ratio for the decade of 105 deaths to 1000 births.

The 55 *infantile* deaths included 8 from measles, 2 from whooping-cough, 1 from diarrhoea, 4 from tuberculosis, 2 from meningitis, 6 from convulsions, 3 from lung diseases, 2 from gastritis, 8 from debility, 4 from atrophy, and 5 from marasmus. Three infants met with accidental deaths, 1 was malformed, and six were born prematurely.

In England and Wales the proportion of deaths under one year of age to registered births was 149 per 1,000 during the past year, the mean proportion in the preceding ten years having been 142.



## ZYMOTIC MORTALITY.

The deaths from zymotic diseases were 4 in the case of those which are notifiable, and 49 in the other class where the number of cases cannot be obtained, or a total of 53 deaths in all.

	Cases	Deaths
Small-pox .....	none	none
Scarlatina .....	73	1
Diphtheria .....	4	none
Membranous Croup.....	none	none
Fevers {	Typhus .....	none
	Enteric .....	11
	Continued .....	none
	Relapsing .....	none
	Puerperal .....	1
Cholera .....	none	none
Erysipelas .....	11	1
Total		3

The fourth death was from erysipelas, but this case was not notified.

In the other class the deaths were as follows:—

	Deaths.
Measles .....	40
Whooping-cough .....	5
Diarrhoea and Dysentery .....	4
Rheumatic Fever .....	none
	—
Total	49

The *zymotic mortality* was therefore at the rate of 3·17 per 1000 persons living, a rate higher than in any year since 1886, when it was 4·1.

## SCARLET FEVER.

SCARLATINA was very prevalent in a mild form throughout the first nine months of the year; there were cases in each ward, but it was most abundant in the east and north-east wards. Out of the 73 cases which were notified, 18 were under, and 55 were over five years of age. The mortality was very small, there being only one death from this cause.

In each month the cases were as follows :

January.....	2 cases	...	July .....	8 cases
February ...	9 cases	...	August .....	8 cases
March .....	9 cases	...	September	4 cases
April.....	16 cases	...	October.....	1 case
May .....	6 cases	...	November...	2 cases
June.....	8 cases	...	December ...	none

### MEASLES.

This disease appeared in the borough in the first week of December, 1890, and it became epidemic in the last week of that month. It was extremely prevalent all through January, 1891, and it rapidly subsided in February. The district was nearly free from measles until the end of March, when several fresh cases appeared in the Eastern ward, and many adults were attacked. In April and May the disorder appeared in various localities, but by the end of June the epidemic seemed to have stopped. There were in all 40 deaths due to measles during the late epidemic, of which 27 occurred in January, 1891, 4 in February, none in March, 4 in April, 4 in May, none in June, and 1 in July. Of these 40 deaths, 26 were amongst males, and 14 were amongst females.

The ages at death were thus distributed :—

Under 1 year.....	8	7 to 8 years .....	1
1 to 2 years .....	11	8 to 9 years .....	none
2 to 3 years .....	7	9 to 10 years ...	none
3 to 4 years .....	1	10 to 11 years...	3
4 to 5 years .....	6	11 to 12 years...	none
5 to 6 years .....	1	12 to 13 years...	1
6 to 7 years .....	1	above 13 years	none

Out of the forty deaths, 33 were under five years of age. It is difficult to estimate the total number of cases, as none were notified, and many were not attended by any medical man.

An examination of the pauper returns shows that there were 284 cases of illness from measles in 123 families, and of these 284 cases, 8 died, or one-fifth of the total mortality. The death-rate amongst the poor from measles is always higher than amongst those who are better off, but supposing the rate to be equal amongst all classes, it may be estimated from the mortality returns that at least 1400 persons were attacked.

An analysis of the pauper returns gives the following results :—

			Cases.	Deaths.
In December, 1890	...	...	19	none
In January, 1891	...	...	221	7
In February, 1891	...	...	15	none
In March, 1891	...	...	7	none
In April, 1891	...	...	11	none
In May, 1891	...	...	11	1
In June, 1891	...	...	none	none
Total			284	8

The ages of these 284 persons who were attacked were as follows :—

			Cases.	Deaths.
Under 1 year	...	...	16	2
1 to 2 years	...	...	37	3
2 to 3 years	...	...	34	1
3 to 4 years	...	...	36	none
4 to 5 years	...	...	34	1
5 to 6 years	...	...	36	none
6 to 7 years	...	...	34	none
7 to 8 years	...	...	19	1
8 to 9 years	...	...	14	none
9 to 10 years	...	...	8	none
10 to 11 years	...	...	4	none
11 to 12 years	...	...	3	none
Above 12 years	...	...	9	none
Total			284	8

The table shows how much more fatal measles is in the first three years of life than at any subsequent period.

Of the 40 children who died, only 2 were amongst the well-to-do classes, and in each of these cases the child was delicate, 8 were amongst paupers, and the remaining 30 cases were amongst labouring people and artisans.

The public elementary schools were closed on January 8th and they did not re-open for a month, at which time the epidemic had in a great measure subsided.

The extremely cold and inclement weather caused much distress amongst the poor, and the weakly and delicate children suffered severely. The Provident Society distributed large quantities of



bread, soup and coal. To meet the pressing needs, a special distress fund was raised by the Mayor, and, in a few days, large sums of money were collected, and relief was given to all cases requiring it.

The disease was very prevalent in Brighton in the last quarter of 1891, and thence it seems to have spread to Worthing, where it broke out with unusual severity. Perhaps it was all the more severe as there had been no epidemic form of measles for many years, and hundreds of children had grown up who had never had it in earlier years.

### WATER SUPPLY.

There has been no alteration in the water supply during the past year except the extension of the mains to fresh streets and houses.

Now that West Worthing is merged in the borough there are two sources whence water is drawn.

1. On the constant system from the old wells sunk by the late Local Board of Worthing.

2. On the intermittent system from the wells sunk by the late West Worthing Improvement Commissioners.

A description of these works has been given on previous occasions (12th report, 119).

Analysis of these waters has been made on various occasions, and the results, so far as chemical evidence is of any value, are very satisfactory ; they show a good wholesome, water drawn from the upper chalk, free from sewage pollution, and unaffected by the proximity of the sea.

In the years 1880-82 there was a great waste of water, the consumption amounting to 35 or 37 gallons per head per day.

A full account of the causes of this waste will be found in my reports for those years.

In 1882 a code of regulations was drawn up providing for the prevention of waste, the disconnection of the water supply from all drains and closets, the provision of small flushing cisterns in each closet, the delivery of warning pipes into the open air, and for the drawing of all water from the rising main.

These regulations chiefly affected new houses, but in many of the old ones new fittings have been put up from time to time.

In the West Ward there are large tanks in each house, which are filled twice a day, whence drinking water is obtained ; smaller cisterns in each closet are used for flushing purposes.

The houses supplied on the constant system still allow of a great waste of water.

In February, 1891, the engineer, Mr. Harris, reported that the loss from the tank with 10lb pressure amounted to 9,750 gallons per hour after midnight.

The following statements show the amount of water pumped daily on different occasions.

	Average daily engine revolutions.	Average No. of gallons pumped daily.
Week ending January 15th.....	11,934 ...	536,393
„ „ 22nd ...	11,140 ...	506,363
„ „ 29th.....	10,530 ...	478,636
„ February 5th.....	10,406 ...	473,000
„ „ 12th.....	10,397 ...	472,590

At the end of the month's inspection, 63,800 gallons of water were saved daily, and instead of pumping all through the 24 hours, the engine was stopped 3 hours in the day, and  $3\frac{1}{2}$  hours during the night.

In the middle of June the following results were shown.

	No. of engine revolutions.	No. of gallons per day.
June 15th .....	11,967 ...	543,909
„ 16th .....	12,450 ...	565,909
„ 17th .....	12,712 ...	577,818
„ 18th .....	11,611 ...	527,727

The usual supply at this time was 545,454 gallons per day with 12,000 engine revolutions.

The yield of the wells was equal to a daily consumption of 36 gallons per head of population of 15,000 people, for the rest of the inhabitants use West Worthing water.

This amount is far in excess of what can be required in a town where so little is required for manufacturing or trade purposes, and where sea water or the West Worthing water is frequently used to water the roads.

This waste of water is a question which is now causing consideration and inquiry.

## DRAINAGE AND SEWAGE.

No fresh works have been carried out during the year, except the extension of sewers to fresh streets and houses. Several dwellings have been erected to the north of the railway, and a new sewer will be laid early next year to meet their requirements ; at the same time, the old sewer will be re-laid at a lower level, and in course of time I hope that the sewage from the village of Broadwater will be carried down into the Worthing system.

There are now two outfall sewers in the borough. One, dealing with the sewers of the late Local Board District, discharges into the sea at the eastern portion of the area ; while the other one, dealing only with the sewage of the west ward, discharges into the sea at the western portion of the area.

These works have been detailed in former years.

A scheme is now under consideration for connecting the West Worthing sewers to the Worthing system by a low level sewer along Marine Parade and the Steyne to High Street.

## SYSTEMATIC INSPECTION.

The following is a summary of work recorded in the report book of Mr. C. T. Gardner, the Sanitary and Water Inspector.

Premises and Dwelling Houses inspected, viz:—

**SLAUGHTER HOUSES.**—There are seven, which have been periodically visited and found generally clean. Several improvements should be carried out in some, viz:—Repaving floors where defective ; covering walls with impervious material to a suitable height from the floors, that they may be washed down after slaughtering, and provision of receptacles for receiving offal during the process of slaughtering.

**BUTCHER'S SHOPS.**—There are eighteen of these, which have been inspected from time to time and found clean ; in four, sanitary defects existed ; notices were served and the defects remedied.

**MEAT INSPECTION.**—One hind-quarter of beef was condemned as unfit for human food. Magisterial proceedings were not necessary in this case.

**FOOD INSPECTION.**—A tin of salmon was examined and found to be of average quality.

**SALE OF FOOD AND DRUGS ACT.**—No sample of food or drugs was taken under this Act, as no instructions to purchase were given.



DAIRIES AND MILK SHOPS.—There are eighteen milk sellers registered; the premises were inspected and found generally clean; where sanitary defects existed notices were served and the defects remedied.

FISH SHOPS.—There are seven, which were inspected and found clean; at three of the shops the offal made in the business is removed by one of the Corporation employés at the close of each day, and carted to a distant part of the borough, where it is used as manure. This is a good plan, and should be adopted by other fishmongers.

BAKEHOUSES.—There are nineteen within the borough; they have been regularly inspected and were limewashed twice during the period. Sanitary defects were found to exist in seven; notices were served to remedy the defects, and complied with.

COMMON LODGING HOUSES.—There are three registered within the borough, these have been frequently visited and found clean; they contain a total of 15 rooms that are available for sleeping purposes, and for the maximum accommodation of 121 persons nightly.

The nightly average of casual lodgers accommodated during the period cannot be ascertained, as the occupiers in two cases have not kept a proper record.

COMPLAINTS.—There were 43 received and inquired into. No complaints were received *re* seaweed on the foreshore.

Two complaints were received relative to a nuisance at a piggery and horseflesh depôt at the eastern part of the borough. The owner of the premises was served with a notice requiring him to abate the nuisance and cleanse the premises. The premises were cleansed and limewashed, but the nuisance has recurred since, and I am of opinion that, unless proceedings are taken against the owner, these premises will always be a nuisance to the occupiers of the surrounding premises.

DISINFECTIONS.—Twenty premises were disinfected after illness of an infectious nature. In each case the premises were cleansed.

UNWHOLESOME HOUSES.—On the certificate of the Medical Officer of Health, four houses were cleansed and purified.

HOUSES UNFIT FOR HUMAN HABITATION.—Seven houses were closed, one of which has been demolished.

NOTICES SERVED.—There were three hundred notices served for the abatement of nuisances, remedying sanitary defects, and repairs or alterations to water fittings. Many improvements were effected by verbal request, and without notice.

PROCEEDINGS BEFORE THE MAGISTRATES.—Seven summonses were taken out, viz. : one for a cleansing order, three for closing orders, and three for the abatement of nuisances ; orders were made in the two former, one order was made in the latter, two being withdrawn to enable the defendants to execute the works required for the abatement of nuisances.

The nuisances dealt with were as follows :—

1. OVERCROWDING.—Twelve cases were abated.
2. OFFENSIVE ACCUMULATIONS.—Twenty were ordered to be removed, and the notices were complied with in each case.
3. ANIMALS KEPT SO AS TO BE A NUISANCE.—Six instances where this existed, the animals were removed or proper accommodation provided.
4. ABSENCE OF DUST-BINS.—Twenty new galvanized iron bins were provided, and ten that were dilapidated have been repaired.
5. SMOKE ISSUING FROM CHIMNEYS.—Two chimneys were altered.
6. YARDS UN-PAVED AND NOT DRAINED.—Six were paved and drained.
7. WASTE PIPES OR SINKS, BATHS AND LAVATORIES, CONNECTED DIRECTLY WITH THE SEWERS.—Fifty were cut off and made to empty on to channels leading to stoneware trapped gullies in the open air.
8. DRAINS UN-VENTILATED.—Forty were ventilated by 4in. shafts carried above main roofs of houses.
9. DRAINS STOPPED.—Twenty were found to be stopped ; these were opened up, unstopped, and the defects remedied.
10. HOUSE DRAINS NOT DIS-CONNECTED BY INTERCEPTING CHAMBERS FROM THE SEWERS.—Six were provided with intercepting chambers with air inlet to each.
11. CESSPOOLS.—One was done away with and the drain connected with the public sewer.
12. W.C.s., SUPPLIED WITH WATER IN DIRECT COMMUNICATION WITH THE DRINKING SUPPLY.—Two hundred direct supplies to w.c.'s were cut off and flushing cisterns provided.

**WATER INSPECTION.**—As will be seen by paragraph 12, special attention has been directed to the water supply of the borough to prevent waste and pollution, as in most cases where there was a direct supply to a w.c., the apparatus known as a stool or cottage valve being of inferior construction, much waste of water occurred, besides danger to health by pollution with excreta and foul gases.

**SAMPLES OF WATER ANALYSED.**—Five from shallow wells were submitted to the Medical Officer of Health: two were found to be unfit for drinking purposes, and the town water has been laid on.

### SCAVENGING AND CLEANSING.

The dustbins and house refuse are removed weekly by the Sanitary Authority.

The streets and pavements are not kept sufficiently clean, and much more supervision is required.

In some roads the pavements are covered with waste paper, fine dust and rubbish, which the wind blows about in every direction.

There are a few roads which have not been taken over yet by the authority; some of these are in a very bad condition; the roads in Thorn's Terrace and Howard Street are at last being put into a good state, but there are several more which require attention.

### BYE-LAWS

New bye-laws are being framed for dealing with new streets and buildings and for various other purposes.

The old bye-laws were antiquated, and they ceased to operate in November, 1891; the new ones will come into operation some time next year. They are framed on the model bye-laws of the Local Government Board.

The regulations of cowsheds and dairies will now have to be re-adopted in consequence of the changes in the area of the district.

The Infectious Disease (Notification) Act, 1889, came into operation on August 3rd, 1890.

The Infectious Disease (Prevention) Act, 1890, came into operation on July 4th, 1891.

The Public Health Acts Amendment Act, 1890, came into operation on July 4th, 1891.

There are 5 COWSHEDS in the district, 3 of which are on a very small scale. When the new regulations come into force, various repairs and alterations will have to be carried out.

The DAIRIES in the town are well kept.



Very little MARGARINE is sold, but care is taken that the regulations of the Act are complied with.

The BAKEHOUSES are often inspected and cleansed ; in a few of them some minor alterations have been carried out.

The SLAUGHTERHOUSES are well kept and frequently inspected.

There was only one occasion on which meat or any article of food was condemned as unfit for food.

### INQUESTS.

INQUESTS were held in fifteen cases:—Male, 22 months, congestion of the lungs, following measles ; male, 65 years, natural causes ; female, 81 years, accidental fall, old age ; female, 12 days, accidentally suffocated ; male, 78 years, syncope ; male, 48 years, suicide by hanging ; male, 7 weeks, natural causes, debility ; female, 69 years, accidentally struck by a railway van ; male, 47 years, suicide by drowning ; female newly born, hæmorrhage ; male, 50 years, accidentally run over by a train ; male, 57 years, suicide by hanging ; female newly born, found dead in a garden ; male, 48 years, suicide by hanging ; male, 47 years, accidentally run over by a van.

Four deaths were returned as *not certified* out of a total of 341 deaths:—Female, 12 days, convulsions ; male, 15 months, measles, convulsions ; female, 78 years, failure of heart's action ; male, 78 years, senile decay.

### RAINFALL.

1891. Month.	Infirmary. Inches.	Heene. Inches.	Infirmary. Rainy days.	Heene. Rainy days.
January .....	2·53	2·43	16	15
February.....	0·09	0·09	4	6
March.....	2·22	2·60	18	16
April .....	0·60	0·52	10	8
May .....	2·15	2·14	15	15
June .....	1·90	1·84	11	12
July.....	2·86	3·06	14	14
August .....	4·87	4·36	22	18
September .....	1·36	0·93	15	11
October .....	7·12	6·10	24	20
November .....	3·41	3·14	19	16
December .....	2·79	2·65	23	21
Year .....	31·90	29·86	191	172

The above observations were kindly supplied to me by W. J. Harris, Esq., for Heene, and by Mr. S. W. Perks for the Infirmary

# WORTHING URBAN SANITARY DISTRICT.

TABLE I.—Showing the Deaths at various groups of ages in the  
ten years, 1882-91.

Year.	At all Ages.	Under 1 Year.	1 to 5.	5 to 15.	15 to 25.	25 to 60.	60 and over.
1882.....	160	34	14	3	7	41	61
1883.....	164	33	22	4	8	51	46
1884.....	205	43	13	12	6	61	70
1885.....	178	29	20	7	8	44	70
1886.....	228	54	43	10	5	57	59
1887.....	231	33	18	13	16	57	94
1888.....	220	30	28	10	6	64	82
1889.....	179	28	15	7	10	50	69
1890.....	218	46	18	4	18	51	81
1891..	341	55	44	16	9	92	125
Total .....	2124	385	235	86	93	568	757

# WORTHING URBAN SANITARY DISTRICT.

TABLE 2.—Showing the Deaths and Death-rate in each of the ten years, 1882-91, from Zymotic Diseases.

YEAR.	Small Pox.	Measles.	Scarlatina.	Diphtheria.	Whoop-cough.	Con. Fevers.			Diarrhoea and Dysentery.	Rheumatic Fever.	Erysipelas.	Pyæmia.	Puerperal Fever.	TOTAL.	Rate per 1000 persons living.
						Typhus.	Enteric.	Other.							
1882	...	...	1	1	7	...	1	...	7	...	...	...	1	18	1·5
1883	...	8	...	...	1	...	2	...	1	3	...	...	...	15	1·2
1884	...	...	2	1	...	...	2	...	9	...	2	...	...	16	1·2
1885	...	5	...	5	...	...	3	...	2	...	...	...	...	15	1·1
1886	...	4	1	1	33	...	1	...	15	...	...	...	...	55	4·1
1887	...	...	1	5	...	...	1	...	4	...	...	1	...	12	0·9
1888	...	...	3	3	11	...	...	...	...	...	1	...	...	18	1·3
1889	...	...	...	1	1	...	2	...	...	1	...	...	...	5	0·3
1890	...	3	3	1	1	...	2	...	3	1	2	...	...	16	1·0
1891	...	40	1	...	5	...	...	...	4	...	2	...	1	53	3·1
Tl.		60	12	18	59		14		45	5	7	1	2	223	1·6





(A)—Table of DEATHS during the Year 1891, in the Urban Sanitary District

Names of Localities adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.  (a)	MORTALITY FROM ALL CAUSES, AT SUBJOINED AGES.							(i)			
	At all ages. (b)	Under 1 year. (c)	1 and under 5. (d)	5 and under 15. (e)	15 and under 25. (f)	25 and under 60. (g)	60 and upwards. (h)		1 Small Pox. (i)	2 Scarlatina. (j)	3 Diphtheria. (k)
East Ward.....	40	5	7	4	—	10	14	Under 5 ..... 5 upwards.		1	
Central Ward .....	132	17	15	6	2	36	56	Under 5 ..... 5 upwards.			
North-East Ward .....	69	16	11	3	2	16	21	Under 5 ..... 5 upwards.			
North-West Ward.....	53	12	8	3	2	13	15	Under 5 ..... 5 upwards.			
West Ward .....	25	4	2	—	2	8	9	Under 5 ..... 5 upwards.			
Worthing Infirmary .....	16	1	2	—	2	8	3	Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
TOTALS .....	335	55	15	16	10	91	118	Under 5 ..... 5 upwards.		1	
The subjoined numbers have also to be taken into											
Deaths occurring outside the District among persons belonging thereto.....	12	—	—	—	—	3	9	Under 5 ..... 5 upwards.			
Deaths occurring within the District among persons not belonging thereto.....	54	2	3	3	1	18	27	Under 5 ..... 5 upwards.			

f WORTHING classified according to Diseases, Ages, and Localities.

MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN  
UNDER FIVE YEARS OF AGE.

[illegible]

ount in judging of the above records of mortality.

									I					I	I		9 12
							2	I								I I	5
						I	I					7	12	3	5	20	49



(B)—Table of POPULATION, BIRTHS, AND OF NEW CASES C  
of Health, during the year 1891, in the Urban Sanitary District

Names of Localities adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.  (a)	POPULATION AT ALL AGES.  Census 1891.  (b)	Registered Births.  (d)	Aged under 5 or over 5.  (e)	NEW CASES COMING TO THE KNOWLEDGE OF THE LOCAL AUTHORITY.				
	I Small Pox.			2 Scarlatina.	3 Diphtheria.	4 Membranous Croup.	5 Typhus.	
East Ward .....	2792	69	Under 5 ..... 5 upwards.		1 ..... 12	..... 2	.....	.....
Central Ward.....	6269	133	Under 5 ..... 5 upwards.		6 ..... 10	1 .....	.....	.....
North-east Ward .....	2936	94	Under 5 ..... 5 upwards.		8 ..... 27	.....	.....	.....
North-west Ward .....	2917	76	Under 5 ..... 5 upwards.		3 ..... 3	.....	.....	.....
West Ward .....	1692	20	Under 5 ..... 5 upwards.		..... 3	..... 1	.....	.....
Worthing Infirmary .....			Under 5 ..... 5 upwards.		.....	.....	.....	.....
			Under 5 ..... 5 upwards.		.....	.....	.....	.....
			Under 5 ..... 5 upwards.		.....	.....	.....	.....
			Under 5 ..... 5 upwards.		.....	.....	.....	.....
			Under 5 ..... 5 upwards.		.....	.....	.....	.....
TOTALS .....	16,606	392	Under 5 ..... 5 upwards.		18 ..... 55	..... 4	.....	.....

INFECTIOUS SICKNESS, coming to the knowledge of the Medical Officer  
 NOTHING ; classified according to DISEASES, AGES and LOCALITIES.

[illegible]

compulsory in the District.

**LITTLEHAMPTON**  
**URBAN SANITARY DISTRICT.**

---

pp 149 et seq



# URBAN SANITARY DISTRICT OF LITTLEHAMPTON.

---

POPULATION IN 1871 .....	3,266
"    "    1881 .....	3,926
"    "    1891 .....	4,452
AREA IN ACRES .....	925
NUMBER OF HOUSES IN 1871 .....	625
"    "    1881 .....	743
"    "    1891 .....	851

## POPULATION.

The recent census returns show that the population has increased by 526 over the numbers recorded in 1881; in the previous decade the increase was 660. In neither period was the increase so rapid as in the years between 1861 and 1871. In September, 1882, the London, Brighton, and South Coast Railway Company transferred their steamers from this port to Newhaven, and several families left this district in consequence; the loss from this cause may be put down at about 100 persons.

In thirty years the population has become nearly doubled.

Census	1861.		1871.		1881.		1891.
Persons .....	2350	...	3266	...	3926	...	4452
Increase ...		...	916	...	660	...	526

The average number of inmates in each occupied house in each of the last three census years was respectively 5·23, 5·28 and 5·35.

There have been during the past decade 974 births and 574 deaths, so that the natural increase of population by excess of births over deaths was 400. The actual increase is 526, so that there has been a migration of people from other districts into this area.

## BIRTHS AND BIRTH-RATE.

During the year 1891, the births of 93 children were registered; of these 47 were male and 46 were female.

Estimating the population in the middle of the year at 4,465, the birth-rate was equal to 20·8 per 1000 persons living.

The variations in the birth-rate during the past ten years have been as follows :—

Year.	Births.	Birth-rate.	Year.	Births.	Birth-rate.
1882 ...	94	23·6	1887 ...	116	27·7
1883 ...	111	27·7	1888 ...	99	23·5
1884 ...	98	24·5	1889 ...	104	24·4
1885 ...	81	19·7	1890 ...	89	20·7
1886 ...	89	21·4	1891 ...	93	20·8

The mean annual number of births is 97·4 and the mean annual birth-rate is 23·4 per 1000 persons living.

The birth-rate is very low, and it is now not more than two-thirds of the rate met with in 1875-79, when it was 30·9.

In England and Wales the birth-rate during the year was 31·4 per 1000 persons living, a rate of 1·2 per 1000 higher than that in 1890, which was the lowest on record.

## GENERAL MORTALITY.

There were 76 deaths registered in this district during the year 1891, but to this number must be added the deaths of 8 persons in the East Preston Workhouse, which is outside the district, making a total of 84 deaths; of these, 51 were amongst males, and 33 amongst females.

These 84 deaths include the deaths of 5 visitors.

Estimating the population in the middle of the year at 4,465, the death-rate was equal to 18·8 per 1000 persons living, a rate higher than any recorded during the last seventeen years; in 1890 the mortality was exceptionally low.

In country places throughout England and Wales the mortality in 1891 was equal to 18·5 per 1000 of population.

The mean annual number of deaths during the last ten years was 57·4, and the mean annual death-rate is 13·7 per 1000 persons living.

The variations in the death-rate during the past ten years have been as follows :

Year.	Deaths.		Death-Rate.	
	Including Visitors.	Excluding Visitors.	Including Visitors.	Excluding Visitors.
1882.....	74	66	18·5	16·5
1883.....	55	54	13·7	13·5
1884.....	44	41	11·0	10·2
1885.....	47	46	11·4	11·2
1886.....	50	48	12·0	11·5
1887.....	59	51	14·1	12·2
1888.....	58	55	13·8	13·1
1889.....	65	59	15·3	13·9
1890.....	38	37	8·8	8·6
1891.....	84	79	18·8	17·7

Table 1. shows that the increased mortality was chiefly due to deaths at sixty years of age and upwards.

In each quarter of the past four years the deaths were thus resistered :



	1888.	1889.	1890.	1891.	Total.
First Quarter .....	17	14	11	22	64
Second Quarter .....	9	15	7	25	56
Third Quarter .....	14	26	9	15	64
Fourth Quarter .....	18	10	11	22	61
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
Total.....	58	65	38	84	245

### INFANT MORTALITY.

The *infant mortality* is here given as measured by the number of deaths under one year of age to the total number of births in the year:—

Year.	Births.	Deaths under one year.		Ratio to 1000 Births.	
1882 .....	94	...	16	...	170
1883 .....	111	...	11	...	99
1884 .....	98	...	3	...	30
1885 .....	81	...	4	...	49
1886 .....	89	...	10	...	112
1887 .....	116	...	8	...	69
1888 .....	99	...	10	...	101
1889 .....	104	...	6	...	58
1890 .....	89	...	4	...	45
1891 .....	93	...	10	...	107
	<hr/>		<hr/>		<hr/>
Mean .....	97		8.2		84

The ten *infantile* deaths included one from whooping-cough, one from convulsions, two from bronchitis, and two from debility; one infant was accidentally suffocated, and three were born prematurely.

In England and Wales the proportion of deaths under one year of age to registered births was 149 per 1,000 during the year, the mean proportion in the preceding ten years having been 142.

## ZYMOTIC MORTALITY

The deaths from zymotic diseases were *nil* in the case of those which are notifiable, and 6 in the other class where the number of cases cannot be obtained.

	Cases.	Deaths.
Small-pox .....	none	none
Scarlatina .....	19	none
Diphtheria .....	none	none
Membranous Croup.....	none	none
Fevers. {	Typhus .....	none
	Enteric .....	3
	Continued .....	none
	Relapsing .....	none
	Puerperal .....	none
Cholera .....	none	none
Erysipelas .....	6	none
Total		28
		none

In the other class the deaths were as follows :—

	Deaths.
Measles .....	none
Whooping Cough .....	6
Diarrhoea and Dysentery .....	none
Rheumatic Fever .....	none
	—
Total.....	6

There is no isolation hospital in this district.

The Infectious Disease (Notification) Act, 1889, came into operation on March 25th, 1890.

The Infectious Disease (Prevention) Act, 1890, came into operation on March 25th, 1891.

The Public Health Acts Amendment Act, 1871, came into operation on March 25th, 1891.

The cases which were notified in each month of 1891 are here recorded.

Month.	Scarlet Fever.		Enteric Fever.		Erysipelas.		Total.
January .....	7	...	2	...	0	.....	9
February .....	2	...	0	...	0	.....	2
March .....	2	...	0	...	1	.....	3
April .....	1	...	0	...	0	.....	1
May .....	0	...	1	...	0	.....	1
June .....	3	...	0	...	3	.....	6
July .....	1	...	0	...	0	.....	1
August .....	2	...	0	...	0	.....	2
September .....	1	...	0	...	1	.....	2
October .....	0	...	0	...	0	.....	0
November.....	0	...	0	...	0	.....	0
December.....	0	...	0	...	1	.....	1
	—		—		—		—
Total.....	19		3		6		28

No cases of small-pox, diphtheria or any other form of fever were notified. All the above cases recovered. In each instance the patient was isolated, and the house was fumigated when the illness ceased.

The scarlet fever cases were thus distributed according to age and sex :

	Under 1 year	1 to 5	5 to 10	10 to 15	15 to 20	20 and over	Total
Male .....	0	2	5	1	1	1	10
Female ...	0	0	4	3	2	0	9
	—	—	—	—	—	—	—
Total ...	0	2	9	4	3	1	19

These nineteen cases occurred in nine different houses, and they were of a mild character.

Table II. shows that during the past ten years 47 deaths have taken place in this class of zymotic disorders.

They were thus distributed :—

Notifiable diseases		Non-notifiable diseases	
Small-pox .....	1	Measles .....	7
Scarlatina .....	none	Whooping-cough	18
Diphtheria .....	2	Diarrhoea .....	11
Enteric Fever ...	1	Rheumatic Fever	1
Continued Fever	3	Ague .....	none
Erysipelas .....	3		
	—		—
	10		37

The last death from scarlet fever occurred as far back as 1878, and the last death from enteric fever was in 1882. Thus it will be seen that the zymotic mortality is very low, and that measles, whooping-cough and diarrhoea account for three-fourths of the deaths in this class.

## DEATH-RATES AT DIFFERENT PERIODS.

The works of Water-supply and Sewerage were completed in 1882; before that period the people depended on shallow wells and offensive privies and cesspools. Now there is good water and an efficient system of drainage.

A comparison of the death-rates from various diseases is here given at two periods:—for the seven years before, and for the ten years after the completion of the works.

	Seven years—1875-81.		Ten years—1882-91.
General death-rate.....	14·42	...	13·77
Zymotic death-rate.....	1·10	...	1·13
Phthisis death-rate.....	1·93	...	1·29
Lung-disease death-rate.....	1·98	...	2·28

## WATER SUPPLY.

No fresh works were carried out during the year, except the extension of the mains, when they were required for new houses. The new heading, made in 1890, has increased the storage by 23,000 gallons.

There are now 611 household and other supplies, but this does not include the railway station which obtains water from another source. About two-thirds of the occupied houses in the town are now supplied on the constant system. There were no serious accidents to the mains during the year, but one large iron pipe burst during the long and severe frost; and in one case there was a great waste of water on account of a wooden plug, which had been used to plug a branch main, having become rotten; each of these defects was remedied.



The waterworks have been described in my 6th annual report, and again in the report for the year 1888; since 1882 the town has had an excellent supply; an account of the extension of the works, and the chemical analysis of the water were given in my last annual report.

The wells supplied in March, 1891, from all sources, 8,670 gallons per hour, or 208,000 gallons a day, or an amount equal to  $2\frac{1}{2}$  days' supply. The pumps in ordinary seasons work now six or seven hours a day.

In June, 1891, the output was equal to 114 gallons per day for each house, or, reckoning 5 persons in each house, to 22.9 gallons per head.

There is a certain amount of waste, and it was found on one night in June from 11 p.m. to 5 a.m., to amount to 1,500 gallons an hour.

## STREET WATERING WITH SALT WATER.

The streets are watered with salt water, and a detailed account of this system is given in my 14th annual report. It answers very well, but the roads are very sticky when a thaw comes after a long frost. There has been no extension of the mains, nor any change in the plant. Less sea water is required than fresh water to keep the roads in order. The watering takes place, as a rule, from March to October, and in the winter very little work is done. No complaints are made of any unpleasant smell, or of any injury to the sewers, or to the paint or varnish of carriages: cyclists say it tarnishes the bright metal of their machines.

## SEWERAGE AND DRAINAGE

The main system of sewerage was finished in 1882, and the system is given in detail in my 15th annual report. Each day's sewage is carried out to sea, and the greater part flows away in  $1\frac{1}{2}$  to 2 hours; no nuisance is noticed on the beach, but occasionally there is a smell when the sewage is discharged.

The ventilation is carried out by 6 in. or 9 in. shafts, put up wherever possible. There are 14 large ventilators from which an occasional smell is noticed. Since intercepting chambers are placed between each house and the main sewer, these special ventilators are erected whenever an opportunity occurs. Flushing

arrangements are provided at the highest end of each drain ; a flushing disc is fitted over the opening to the drain as it leaves a manhole ; the latter, when filled with water, will hold from 850 to 1000 gallons ; when the disc is quickly raised, this quantity rushes down and cleanses the drain. There are also three large sea water flushing inlets. The usual form of w.c. is the short hopper, with a good flushing rim, supplied with a 3-gallon cistern, furnished with a  $1\frac{1}{4}$  in. delivery pipe ; the great majority of such closets are out of doors, and are freely ventilated.

In a very few cases trough closets are used ; container closets are never put up now, but there may be one or two old ones left. In three cases, the pipe from the closet pan delivers at once into the open air into a soil pipe furnished with a head ; this plan answers very well, but it is not generally adopted, as it is not in accordance with the bye-laws.

In the streets, the old dipstone traps are being replaced by large gully traps.

### SYSTEMATIC INSPECTION.

The following summary of work done has been given me by Mr. Howard, the Town Surveyor.

The water fittings of 611 houses were inspected and they were found to be defective in 49 instances.

Houses inspected	...	...	...	...	172
Nuisances met with	...	...	...	...	58
Nuisances abated without formal notice	...	...	...	...	52
Nuisances abated with formal notice	...	...	...	...	6
Wells newly dug	...	...	...	...	none
Wells closed	...	...	...	...	none
Wells deepened	...	...	...	...	none

No houses were closed, but there is one house in Hampton Court which must shortly be demolished.

No water certificates were granted, as all new houses are now obliged to have the town water laid on.

About 20 new houses are now being built each year.

There are no public baths.

The public elementary schools are well kept.

## SCAVENGING AND CLEANSING.

This work is done by contract, under the control of the sanitary authority. Ashes and house refuse are removed once a week or oftener. The roads, streets and pavements are kept very clean and neat.

## BYE-LAWS.

Bye-laws are provided for new buildings and streets.

Bye-laws are provided for the removal of snow and filth, etc.

Bye-laws are provided for pleasure boats.

Bye-laws are provided for bathing machines.

Bye-laws are provided for hackney carriages.

Bye-laws are provided for common lodging houses.

Bye-laws are provided for slaughter houses.

Regulations for registering and inspecting Cowsheds and Dairies have been in force since September 1st, 1887.

The eight COWSHEDS AND DAIRIES have been well kept.

There is but a small demand for MARGARINE, but, when sold, the regulations of the Act have been complied with.

The seven BAKEHOUSES have been frequently inspected ; they are kept clean and lime-washed at intervals.

The three SLAUGHTER HOUSES have been kept in a satisfactory condition.

One case of OVERCROWDING was abated by the inmates leaving the cottage.

NO PROCEEDINGS were taken before the Magistrates during the year.

INQUESTS were held in five cases :—Male, 74 years, shock from accidentally falling into the river Arun ; male, 16 days, accidentally suffocated ; male, 3 years, natural causes, catarrh and collapse of the lungs ; male, 6 years, shock from accidentally falling into the sea ; male, 40 years, accidentally drowned.

Two deaths were returned as “not certified,” out of a total of 84 deaths :—Male, 73 years, probably heart disease ; male, 81 years, hernia and cardiac failure.

## LITTLEHAMPTON URBAN SANITARY DISTRICT.

TABLE 1.—Showing the Deaths at various groups of ages in the ten years, 1882-91.

Year.	At all Ages.	Under 1 Year.	1 to 5.	5 to 15.	15 to 25.	25 to 60.	60 and over.
1882.....	74	16	11	2	3	18	24
1883.....	55	11	2	2	1	15	24
1884.....	44	3	—	2	5	14	20
1885.....	47	4	7	1	2	16	17
1886.....	50	10	7	2	1	10	20
1887.....	59	8	3	2	5	14	27
1888.....	58	10	7	3	3	12	23
1889.....	65	6	6	3	3	16	31
1890.....	38	4	2	1	5	10	16
1891.....	84	10	11	5	2	17	39
Total .....	574	82	56	23	30	142	241



## LITTLEHAMPTON URBAN SANITARY DISTRICT.

TABLE 2.—Showing the Deaths and Death-rate in each of the ten years, 1882-91, from Zymotic Diseases.

YEAR.	Small Pox.	Measles.	Scarlatina.	Diphtheria.	Whoop-cough.	Con. Fevers.			Diarrhoea and Dysentery.	Rheumatic Fever.	Erysipelas.	Pyæmia.	Puerperal Fever.	TOTAL.	Rate per 1000 persons living.
						Typhus.	Enteric.	Other.							
1882	..	2	..	..	3	..	1	..	..	..	..	..	..	6	1·5
1883	..	..	..	..	..	..	..	..	2	..	..	..	..	2	0·5
1884	..	..	..	..	1	..	..	..	1	..	1	..	..	3	0·7
1885	..	1	..	1	..	..	..	3	1	..	1	..	..	7	1·7
1886	1	2	..	..	4	..	..	..	3	1	..	..	..	11	2·6
1887	..	1	..	..	1	..	..	..	1	..	..	..	..	3	0·7
1888	..	..	..	..	3	..	..	..	2	..	..	..	..	5	1·1
1889	..	1	..	1	..	..	..	..	1	..	1	..	..	4	0·9
1890	..	..	..	..	..	..	..	..	..	..	..	..	..	..	0·0
1891	..	..	..	..	6	..	..	..	..	..	..	..	..	6	1·3
Tl.	1	7		2	18		1	3	11	1	3			47	1·1



(A)—Table of DEATHS during the Year 1891, in the Urban Sanitary District of

Names of Localities adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.  (a)	MORTALITY FROM ALL CAUSES, AT SUBJOINED AGES.							(i)			
	At all ages. (b)	Under 1 year. (c)	1 and under 5. (d)	5 and under 15. (e)	15 and under 25. (f)	25 and under 60. (g)	60 and upwards. (h)		1 Small Pox. .....	2 Scarlatina. .....	3 Diphtheria. .....
Littlehampton Urban Sanitary District.....	76	10	11	5	2	14	34	Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
TOTALS .....	76	10	11	5	2	14	34	Under 5 ..... 5 upwards.			

The subjoined numbers have also to be taken into

Deaths occurring outside the District among persons belonging thereto.....	8	—	—	—	—	3	5	Under 5 ..... 5 upwards.			
Deaths occurring within the District among persons not belonging thereto.....	5	1	—	1	—	1	2	Under 5 ..... 5 upwards.			



LITTLEHAMPTON classified according to Diseases, Ages, and Localities.

MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN  
UNDER FIVE YEARS OF AGE.

[illegible]

account in judging of the above records of mortality.

[illegible]



(B)—Table of POPULATION, BIRTHS, AND OF NEW CASES OF  
of Health, during the year 1891, in the Urban Sanitary District of

Names of Localities adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.	POPULATION AT ALL AGES.	Registered Births.	Aged under 5 or over 5.	NEW CASES OF COMING TO THE KNOW- OF				
	Census 1891.			1	2	3	4	5
				Small Pox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.
(a)	(b)	(d)	(e)					
Littlehampton Urban Sanitary District .....	4452	93	Under 5 5 upwards.		2 17			
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards.					
			Under 5 5 upwards					

INFECTIOUS SICKNESS, coming to the knowledge of the Medical Officer  
LITTLEHAMPTON ; classified according to DISEASES, AGES and LOCALITIES

SICKNESS IN EACH LOCALITY, LEDGE OF THE MEDICAL OFFICER HEALTH.								NUMBER OF SUCH CASES REMOVED FROM THEIR HOMES IN THE SEVERAL LOCALITIES FOR TREATMENT IN ISOLATION HOSPITAL.											
6	7	8	9	10	11	12	13	1	2	3	4	5	6	7	8	9	10	11	12
FEVERS.												FEVERS.							
Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.			Small Pox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	
3					6														

is compulsory in the District.

ARUNDEL  
URBAN SANITARY DISTRICT.

---

pp 167 et seq

# URBAN SANITARY DISTRICT OF ARUNDEL.

---

POPULATION IN 1871 .....	2,956
„ „ 1881 .....	2,748
„ „ 1891 .....	2,644
AREA IN ACRES .....	1,969
NUMBER OF HOUSES IN 1871 .....	546
„ „ 1881 .....	552
„ „ 1891 .....	550

## POPULATION.

The recent census returns show a steady decrease during the last twenty years, but the decline in the last decade is less than it was in the previous intercensal period.

## BIRTHS AND BIRTH-RATE.

During the year 1891, the births of 59 children were registered ; of these, 34 were male and 25 were female.

Estimating the population in the middle of the year at 2,644, the birth-rate was equal to 22·3 per 1000 persons living.



The variations in the birth-rate during the past ten years have been as follows :—

Year.	Births.	Birth-rate.	Year.	Births.	Birth-rate
1882 ...	82	30·0	1887 ...	64	23·2
1883 ...	71	25·8	1888 ...	76	28·1
1884 ...	70	25·4	1889 ...	62	23·0
1885 ...	69	25·1	1890 ...	79	29·2
1886 ...	66	23·1	1891 ...	59	22·3

The annual mean number of births is 70, and the annual mean birth-rate is 25·5 per 1000 of population.

The birth-rate has steadily declined since 1882, when it was 30·3, and in 1891 it was lower than in any previous year.

In England and Wales the birth-rate during the year was 31·4 per 1000 persons living, a rate 1·2 per 1000 higher than in 1890, which was the lowest on record.

The low birth-rate is in great measure due to the excessive proportion of aged people and to the smaller proportion of married women at the child-bearing ages.

The births are generally most numerous in the first quarter of the year, but this was not the case in 1891.

	1883-89	1890	1891	Total
First Quarter .....	140	27	8	175
Second Quarter ...	118	14	11	143
Third Quarter .....	108	21	22	151
Fourth Quarter ...	112	17	18	147
Total .....	478	79	59	616

### GENERAL MORTALITY.

There were 47 deaths registered in this district during the year 1891, but to this number must be added the deaths of four persons in the East Preston Workhouse, which is outside the district, so that the total number of deaths amounts to 51; of these 24 were male and 27 were female.

Estimating the population in the middle of the year at 2,644, the death-rate was equal to 19·3 per 1000 persons living.

In country places throughout England and Wales the mortality in 1891 was equal to 18·5 per 1000 of population,

The variations in the death-rate during the past ten years have been as follows :—

Year.	Deaths.	Death-rate.	Year.	Deaths.	Death-rate.
1882	50	18·1	1887	77	28·0
1883	45	16·3	1888	56	20·7
1884	40	14·5	1889	47	17·4
1885	37	13·4	1890	70	25·9
1886	42	15·2	1891	51	19·3

Thus there have been during the above period 515 deaths, and a mean annual mortality of 18·9 per 1000 of population. During the same period there were 698 births, so that the natural increase of population by excess of births over deaths was 183; there has, however, been a *decrease* of 104, so that a considerable number must have left the district in the past decade.

The number of houses remains nearly stationary, and there is probably less overcrowding than in former years; there were 5·4 inmates to a house in 1871, against 4·9 in 1881, and 4·8 in 1891.

## INFANT MORTALITY.

The *infant mortality* is here given as measured by the number of deaths under one year of age to the total number of births in the year :—

Year.	Births.	Deaths under one year.	Ratio to 1000 Births.
1882	74	10	135
1883	71	6	84
1884	70	9	128
1885	69	3	43
1886	66	6	96
1887	64	8	125
1888	76	1	13
1889	62	9	145
1890	79	18	228
1891	59	11	186
Mean	69	8·1	118

The rate of infant mortality in England and Wales was 149 per 1000, against a mean proportion of 142 in the ten preceding years. The eleven *infantile* deaths included one from whooping-cough, one from bronchitis, one from aryngitis, one from hernia, three from debility and two from marasmus; one infant was accidentally suffocated, and one was born prematurely.

## ZYMOTIC MORTALITY.

The deaths from zymotic diseases were *nil* in the case of those which are notifiable, and 2 in the other class where the number of cases cannot be obtained.

	Cases	Deaths
Small-pox .....	none	none
Scarlatina .....	2	none
Diphtheria .....	none	none
Membranous Croup.....	none	none
Fever {	Typhus .....	none
	Enteric.....	2
	Continued .....	none
	Relapsing .....	none
	Puerperal.....	none
Cholera .....	none	none
Erysipelas .....	1	none
Total		5
		none

In the other class the deaths were as follows :—

	Deaths
Measles .....	none
Whooping-cough .....	1
Diarrhoea and Dysentery .....	1
Rheumatic Fever .....	none
	—
Total	2

There is no isolation hospital in the district ; the cottage which was temporarily used for that purpose in 1890 was pulled down early in the year.

The Infectious Disease (Notification) Act, 1889, came into operation on May 13th, 1891.

The Infectious Disease (Prevention) Act, 1890, came into operation on March 16th, 1891.

The Public Health Acts (Amendment) Act, 1891, came into operation on March 16th, 1891.

## WATER SUPPLY.

The present state of the water supply was described in my tenth and seventeenth annual reports. The Duke of Norfolk in May last offered to give the town a gratuitous supply of water for domestic and other purposes, equal to 75,000 gallons per diem,

passed through a meter. This amount is probably much in excess of what may be wanted for the town for many years, but should any larger quantity be required there will be a charge of 1s. for every 1,000 gallons so supplied. This liberal offer has been accepted by the Town Council and also at a public meeting of the inhabitants held on May 12th, 1891. The proposal was subject to certain arrangements being agreed to by the Corporation, and these have been acceded to, so that next year the whole town will have a constant supply of excellent water laid on to each house.

### DRAINAGE AND SEWAGE.

The condition of the system of drainage was described in my tenth and seventeenth annual reports.

A scheme has been under consideration during the year for carrying out a new system of drainage for the town.

Now that an efficient water supply will be provided, the closets and drains can be properly flushed, and all old cesspits will be done away with.

The old drains will remain, and they will carry off storm and surface water. The new drains will be of smaller capacity, and when the house connections are made, and the drains properly flushed and ventilated, a great many nuisances will be abated which cannot be dealt with unless some general system is carried out.

The Duke of Norfolk has offered to give £1000 towards the cost of the scheme, and the cost is to be paid off in four years.

The chief difficulty will arise in dealing with the sewage at the outfalls. At present it is proposed to have several outfalls, and to send the crude sewage at once into the river Arun.

Some method must be devised for purifying the sewage to some extent before it enters the river, or a nuisance will be sure to arise. This is the more necessary, as many visitors come to the town in the course of the year, and those who enjoy boating on the river will have much cause for complaint.

### BYE-LAWS.

There are now no bye-laws for the district. It is most necessary that proper regulations should be drawn up, framed on the Model Bye-laws, before the above works are carried out.



## MARGARINE ACT.

Several grocers sell margarine, and in each case the regulations of the Act have been complied with.

## BAKEHOUSES.

These are six in number and they are very well kept. There is no bakehouse on a large scale, and the chief duty is to see that they are frequently cleansed and limewashed. In each case there is a good amount of light and air, and in no instance is there any drain within the building.

## SLAUGHTERHOUSES.

These are five in number, and they are very well kept as regards cleanliness and removal of refuse. The meat in all cases has seemed to be of very good quality.

## COMMON LODGING-HOUSES.

These are three in number, but the number of inmates is very small. The houses are very well kept.

## COWSHEDS AND DAIRIES.

These are five in number, and they are kept in a very clean condition.

No proceedings were taken before the magistrates during the year.

There was no occasion to condemn meat or any other article of food exposed for sale.

An *inquest* was held in one case :—Female, 8 months, accidentally suffocated.

One death was returned as “not certified” out of a total of 51 deaths :—Female, 69 years, cancer of stomach.

## ARUNDEL URBAN SANITARY DISTRICT.

TABLE 1.—Showing the Deaths at various groups of ages in the  
nine years, 1883-91.

Year.	At all Ages.	Under 1 Year.	1 to 5.	5 to 15.	15 to 25.	25 to 60.	60 and over.
1883.....	45	6	8	..	3	10	18
1884.....	40	9	5	3	2	10	11
1885.....	37	3	4	1	5	9	15
1886.....	42	6	3	3	4	14	12
1887.....	77	8	7	3	3	28	28
1888.....	56	1	13	6	4	16	16
1889.....	47	9	...	1	4	11	22
1890.....	70	18	8	3	6	6	19
1891..	51	11	3	2	1	10	24
Total .....	465	71	51	22	32	124	165

## ARUNDEL URBAN SANITARY DISTRICT.

TABLE 2.—Showing the Deaths and Death-rate in each of the nine years, 1883-91, from Zymotic Diseases.

YEAR.	Small Pox.	Measles.	Scarlatina.	Diphtheria.	Whoop-cough.	Con. Fevers.			Diarrhoea and Dysentery.	Rheumatic Fever.	Erysipelas.	Pyæmia.	Puerperal Fever.	TOTAL.	Rate per 1000 persons living.
						Typhus.	Enteric.	Other.							
1883	...	1	...	...	...	...	...	...	...	...	...	...	...	1	0·3
1884	...	...	...	1	1	...	...	...	2	...	...	...	...	4	1·4
1885	...	...	...	...	...	...	...	...	1	...	...	...	...	1	0·3
1886	...	...	...	2	.	...	...	...	1	1	...	...	...	4	1·4
1887	...	...	2	...	...	...	...	...	...	...	...	...	...	2	0·7
1888	...	...	13	2	...	...	...	...	...	...	1	...	1	17	6·1
1889	...	...	...	1	1	...	...	1	...	...	...	...	...	3	1·0
1890	...	1	1	2	...	...	11	...	2	...	...	...	...	17	6·1
1891	...	...	...	...	1	...	...	...	1	...	...	...	...	2	0·7
Tl.		2	16	8	3		11	1	7	1	1		1	51	2·0

## ARUNDEL URBAN SANITARY DISTRICT.

TABLE 3.—Showing the Deaths and Death-rate from all causes and from various causes in the nine years, 1883-91.

YEAR	Deaths during the 9 years 1883-91, from					Annual Death-rate per 100,000 living from				
	Heart Disease	Lung Disease	Phthisis.	Zymotic Disease.	All Diseases	Heart Disease	Lung Disease	Phthisis.	Zymotic Disease	All Diseases
1883.....	45	8	6	1	1636	72	291	218	36	1636
1884.....	40	7	8	4	1454	182	254	291	145	1454
1885.....	37	5	8	1	1345	218	182	291	36	1345
1886.....	42	9	5	4	1527	182	327	182	145	1527
1887.....	77	9	13	2	2800	400	327	472	72	2800
1888.....	56	5	7	17	2074	145	181	254	618	2074
1889.....	47	6	4	3	1740	182	218	145	109	1740
1890.....	70	8	3	17	2592	254	291	109	618	2592
1891.....	51	10	3	2	1929	151	378	113	75	1929
	Population in middle of period									
	2750	2750	2750	2750	2750					
	2750	2750	2750	2750	2750					
	2750	2750	2750	2750	2750					
	2750	2750	2750	2750	2750					
	2750	2750	2750	2750	2750					
	2700	2700	2700	2700	2700					
	2700	2700	2700	2700	2700					
	2700	2700	2700	2700	2700					
	2644	2644	2644	2644	2644					



(A)—Table of DEATHS during the Year 1891, in the Urban Sanitary District of

Names of Localities adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.  (a)	MORTALITY FROM ALL CAUSES, AT SUBJOINED AGES.							(i)	1	2	3
	At all ages. (b)	Under 1 year. (c)	1 and under 5. (d)	5 and under 15. (e)	15 and under 25. (f)	25 and under 60. (g)	60 and upwards. (h)		Small Pox. (i)	Scarlatina. (j)	Diphtheria. (k)
Arundel Urban Sanitary District.....	47	11	3	2	1	10	20	Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
TOTALS .....	47	11	3	2	1	10	20	Under 5 ..... 5 upwards.			

The subjoined numbers have also to be taken into

Deaths occurring outside the District among persons belonging thereto.....	4	—	—	—	—		4	Under 5 ..... 5 upwards.			
Deaths occurring within the District among persons not belonging thereto.....	—	—	—	—	—	—	—	Under 5 ..... 5 upwards.			

ARUNDEL, classified according to Diseases, Ages, and Localities.

MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN  
UNDER FIVE YEARS OF AGE.

[illegible]

account in judging of the above records of mortality.

									I					2			I	4
--	--	--	--	--	--	--	--	--	---	--	--	--	--	---	--	--	---	---

(B)—Table of POPULATION, BIRTHS, AND OF NEW CASES OF  
of Health, during the year 1891, in the Urban Sanitary District of

Names of Localities adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.  (a)	POPULATION AT ALL AGES.  Census 1891.  (b)	Registered Births.  (d)	Aged under 5 or over 5.  (e)	NEW CASES OF COMING TO THE KNOW- OF				
				1	2	3	4	5
				Small Pox.	Scarlatina.	Diphtheria.	Membranous Group.	Typhus.
Arundel Urban Sanitary District .....	2644	59	Under 5 ..... 5 upwards.		2			
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
TOTALS .....	2644	59	Under 5 ..... 5 upwards.		2			



INFECTIOUS SICKNESS, coming to the knowledge of the Medical Officer  
ARUNDEL; classified according to DISEASES, AGES and LOCALITIES.

SICKNESS IN EACH LOCALITY, LEDGE OF THE MEDICAL OFFICER HEALTH.								NUMBER OF SUCH CASES REMOVED FROM THEIR HOMES IN THE SEVERAL LOCALITIES FOR TREATMEN IN ISOLATION HOSPITAL.											
6	7	8	9	10	11	12	13	1	2	3	4	5	6	7	8	9	10	11	12
FEVERS.												FEVERS.							
Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.			Small Pox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	
2					I														

is compulsory in the District.



HORSHAM

URBAN SANITARY DISTRICT.

---

pp 181 et seq

## URBAN SANITARY DISTRICT OF HORSHAM.

---

This district joined the Combined Sanitary District at the end of December, 1891, so that only a few general facts as regards the sanitary condition are here given, as during the past year I had no opportunity of a systematic inspection.

Horsham has increased considerably in population in recent years; the recent census returns show an increase of 1,763 persons and of 376 inhabited houses.

	1881.		1891.		Increase.
Persons .....	6784	...	8637	...	1763
Inhabited Houses .....	1396	...	1772	...	376

The figures given below relate to the six months ending December 31st, 1891, except where other figures are given for comparative purposes.

### BIRTHS AND BIRTH-RATE.

During the half-year ending December 31st, 1891, there were 106 births, of which 55 were male and 51 were female.

Estimating the population at 8,637, the birth-rate was equal to an annual rate of 24·5 per 1000 persons living.

The births in the previous ten years were as follows:—

Year.	Births.	Year.	Births.
1881 .....	226	1886 .....	235
1882 .....	210	1887 .....	201
1883 .....	272	1888 .....	220
1884 .....	247	1889 .....	236
1885 .....	227	1890 .....	227

The mean annual number of births was, therefore, 229·1, while in the whole of the year 1891 there were 232 births.

### GENERAL MORTALITY.

During the half-year ending December 31st, 1891, the deaths of 46 persons were registered, but to this number must be added the deaths of 4 persons in the Horsham Workhouse, which is outside the district.

Estimating the population at 8,637, the death-rate was equal to an annual rate of 11·5 per 1000 persons living.

The deaths in the previous ten years were as follows :—

Year.	Deaths.	Year.	Deaths.
1881 .....	99	1886 .....	184
1882 .....	116	1887 .....	110
1883 .....	107	1888 .....	106
1884 .....	104	1889 .....	106
1885 .....	108	1890 .....	131

The mean annual number of deaths was therefore, 117·1, while in the whole of the year 1891 there were 102 deaths.

### INFANT MORTALITY.

In the second half-year of 1891 there were 5 deaths of infants under one year of age out of 106 births, so that the rate of infant mortality was 47 for every 1000 births.

In England and Wales the ratio was 149 per 1000 against a mean annual ratio of 142 in the ten preceding years.

### ZYMOTIC MORTALITY.

There were seven deaths during the second half of 1891 in this class of disorders, so that the annual rate was equal to 1·6 per 1000 persons living.

Two died of diphtheria, one of enteric fever, one of erysipelas, one from whooping-cough, and two from diarrhœa.

The deaths from diphtheria occurred in the same house, and the sisters were aged 4 and 2 years respectively.

There is no isolation hospital in the district.

The Sanitary Authority have not yet adopted the  
Infectious Disease (Notification) Act, 1889.  
Infectious Disease (Prevention) Act, 1890.  
Public Health Acts Amendment Act, 1890.

### WATER SUPPLY.

A Company was formed in 1865 to supply the town with water, and a well was sunk upon land in Park Terrace East. The works were subsequently purchased by the Local Board, and a new high level covered reservoir was erected on land north of the work-house, capable of holding 500,000 gallons.

The supply to the town is on the constant system, and in the great majority of cases, each w.c. is supplied with a small flushing cistern, so that there is no direct connection between the water and drainage systems,

A scheme for increasing the daily supply of water is now under the consideration of the Sanitary Authority.

### DRAINAGE AND SEWERAGE.

A main system of sewerage was carried out about fifteen years ago. Before that time there were numerous cesspools, and much sewage passed directly into the river Arun in its passage through the town.

When the main system was carried out, cesspools were done away with, proper house connections were made, and the sewage was taken to some land outside of the town where it was used for irrigation purposes. This outfall has been a constant source of trouble and expense, and there has been at various times much pollution of the river Arun. A scheme for chemically treating and filtrating the sewage is now under consideration. Mr. Baldwin Latham is the engineer, and an enquiry into the subject was held by Mr. S. I. Smith on August 25th, after an application had been made by the Sanitary Authority to borrow £4,600 for works of sewage disposal, and £400 for street improvements.

### SCAVENGING AND CLEANSING.

The streets are well paved, and they are kept in a clean condition. The general aspect of the town has recently been much improved, and the sanitary surroundings of the houses are much better than they were sixteen years ago.

More inspection is now wanted, and this work will be seen to in the coming year.

### BYE-LAWS.

are provided for the new streets and buildings ; for the removal of refuse and the prevention of nuisances, and for the regulation of slaughter-houses and common lodging-houses. These are framed on the Model Bye-laws, and they were allowed by the Local Government Board on Sept. 27th, 1877.

Bye-laws were also allowed on March 14th, 1885, for regulating the use of the Market Place and the Buildings, etc. therein, and for preventing nuisances or obstructions.

A table of tolls leviable in the market was approved by the Local Government Board on January 18th, 1886.



(A)—Table of DEATHS during the half-year ending Dec. 31, 1891, in the Urban

Names of Localities adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.  (a)	MORTALITY FROM ALL CAUSES, AT SUBJOINED AGES.							(i)	1	2	3
	At all ages. (b)	Under 1 year. (c)	1 and under 5. (d)	5 and under 15. (e)	15 and under 25. (f)	25 and under 60. (g)	60 and up- wards. (h)		Small Pox. (i)	Scarlatina. (j)	Diphtheria. (k)
Horsham Urban Sanitary District.....	46	5	6	3	2	20	10	Under 5 ..... 5 upwards.			2
								Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
								Under 5 ..... 5 upwards.			
TOTALS .....	46	5	6	3	2	20	10	Under 5 ..... 5 upwards.			2

The subjoined numbers have also to be taken into

Deaths occurring outside the District among persons belonging thereto.....	4	—	—	—	—	—	4	Under 5 ..... 5 upwards.			
Deaths occurring within the District among persons not belonging thereto.....	—	—	—	—	—	—	—	Under 5 ..... 5 upwards.			

Sanitary District of HORSHAM, classified according to Diseases, Ages, & Localities

MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN  
UNDER FIVE YEARS OF AGE.

[illegible]

account in judging of the above records of mortality.

[illegible]

(B)—Table of POPULATION, BIRTHS, AND OF NEW CASES OF  
of Health, during the Half-year ending Dec. 31, 1891, in the Urban Sanitary

Names of Localities adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.  (a)	POPULATION AT ALL AGES.  Census 1891.  (b)	Registered Births.  (c)	Aged under 5 or over 5.  (e)	NEW CASES OF COMING TO THE KNOW- OF				
				1	2	3	4	5
				Small Pox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.
Horsham Urban Sanitary District .....	8637	106	Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
			Under 5 ..... 5 upwards.					
TOTALS .....	8637	106	Under 5 ..... 5 upwards.					



INFECTIOUS SICKNESS, coming to the knowledge of the Medical Officer  
District of HORSHAM; classified according to DISEASES, AGES and LOCALITIES.

[illegible]



Nearly the whole of this increase took place in urban districts, or in places of an urban character. In seven of such places there was an *increase* in the twenty years of 15,792 persons, and in two urban districts there was a *decrease* of 759 persons during the same period, leaving the total *urban increase* at 15,033. The increase from 1871 to 1881 was 6,288, and there was a further increase of 8,745 from 1881 to 1891. In the last decade the towns grew faster than in the previous decade.

In 124 rural parishes, the *increase* in the twenty years was only 2,844; from 1871 to 1881, the increase was 2,602, while from 1881 to 1891 the increase was only 242; the population in the rural districts was nearly stationary in the last decade.

Urban Disrict.		1871 to 1881.	1881 to 1891.	Total increase.
Worthing.....	increase ...	3,988	4,941	8,929
Aldrington ...	„ ...	117	2,062	2,179
Portslade.....	„ ...	1,317	575	1,892
Littlehampton	„ ...	660	526	1,186
Ifield .....	„ ...	404	774	1,178
Southwick ...	„ ...	222	3*	219
Midhurst.....	„ ...	150	59	209
Total increase.....		6,858	8,934	15,792
			*decrease	
Arundel .....	decrease ...	208	104	312
Petworth .....	„ ...	362	85	447
Total decrease.....		570	189	759
Total urban increase .....		6,288	8,745	15,033
Increase in 124 rural parishes		2,602	242	2,844
Total increase.....		8,890	8,987	17,877

The population in nine urban or semi-urban districts rose from 25,014 in 1871, to 31,302 in 1881, and to 40,047 in 1891.

The population in 124 rural parishes rose from 63,585 in 1871 to 66,187 in 1881 and to 66,429 in 1891.

These figures do not include the urban district of Horsham, which only joined the combination at the end of 1891.

The following statistics are based on a population estimated in the middle of 1891 at 106,716

The results of the census are disappointing.

In the ten years 1882-91 there were 13,179 more births than deaths, while the increase in the population was only 8,987 from April, 1881 to April 1891, so that although the towns grew, there must have been a great exodus amongst the rural population. The birth-rate declined steadily, and as far as numbers are concerned, the diminished births more than cancelled any improvement in the death-rate.

### BIRTHS AND BIRTH-RATE.

During the year 1891 the births of 2,837 children were registered, and of these 1,444 were male and 1393 were female.

The following table shows the births and birth-rate during the past ten years :—

Year.	Population.	Births.		Total.	Rate per 1,000
		Male.	Female.		
1882 ...	95,746 ...	1,592 ...	1,381 ...	2,973 ...	31·0
1883 ...	99,400 ...	1,460 ...	1,426 ...	2,886 ...	29·0
1884 ...	100,306 ...	1,578 ...	1,455 ...	3,033 ...	30·2
1885 ...	101,212 ...	1,456 ...	1,340 ...	2,796 ...	27·6
1886 ...	102,118 ...	1,495 ...	1,423 ...	2,918 ...	28·5
1887 ...	103,038 ...	1,400 ...	1,367 ...	2,767 ...	26·9
1888 ...	103,958 ...	1,437 ...	1,342 ...	2,779 ...	26·7
1889 ...	104,878 ...	1,419 ...	1,347 ...	2,766 ...	26·3
1890 ...	105,798 ...	1,329 ...	1,229 ...	2,628 ...	24·9
1891 ...	106,716 ...	1,444 ...	1,393 ...	2,837 ...	26·6
Total	106,716	14,610	13,773	28,383	27·8

The birth-rate showed a slight increase in 1891 on 1890, but there has been a gradual decline since 1872, when it was equal to 31·1 per 1000 persons living.

Had the same rate prevailed in 1891 that was met with in 1879, there would have been 482 more births.

The district is much larger than it was ten years ago, and the population has increased by nearly 12,000 people, yet the actual number of births was less in 1891 than in 1881.

Agricultural depression will not altogether account for this decrease.

This decline is general throughout the country. In England and Wales the birth-rate, which was 33·9 in 1891, gradually sank to 30·2 in 1890, when it reached its lowest point; it rose to 31·4 in the year 1891.

The marriage-rate throughout the country reached its lowest point in 1886 ; it rose to 15·5 in 1890, and to 15·6 in 1891.

In each quarter of the year the births were thus distributed :—

	Male.		Female.		Total.		Per cent.
First Quarter .....	333	...	360	...	693	...	24·4
Second Quarter ...	394	...	359	...	753	...	26·5
Third Quarter ...	374	...	339	...	713	...	25·1
Fourth Quarter ...	343	...	335	...	678	...	24·0
Total.....	1444		1393		2837		100·0

Table I shows the male and female births in each quarter of the past two years ; on the whole more boys are born than girls, but in five of the quarters, the female births were in excess of the male births.

### GENERAL MORTALITY.

During the year 1891, the deaths of 1,814 persons were registered, and of these 951 were male and 863 were female.

Estimating the population in the middle of the year at 106,716, the death-rate was equal to 17·0 per 1000 persons living.

This rate of mortality is higher than in any year since 1875, when the rate was the same.

District.	Population.		Deaths.		Death-rate.
Steyning .....	19,100	...	305	...	16·0
Horsham .....	16,270	...	240	...	14·7
Petworth .....	9,430	...	153	...	16·2
Thakeham .....	8,054	...	126	...	15·6
East Preston .....	8,712	...	123	...	14·1
Midhurst .....	14,235	...	267	...	18·7
Westbourne .....	7,084	...	124	...	17·5
Worthing .....	16,722	...	{ 341	...	20·3
			{ 287*	...	17·1*
Littlehampton ...	4,465	...	{ 84	...	18·8
			{ 79*	...	17·7*
Arundel .....	2,644	...	51	...	19·3
Total.....	106,716		1,814		17·0
			1,755*		16·4*

\*excluding visitors.

There were 1,814 deaths actually registered in the whole district, but to this number should be added the deaths of 42 persons occurring outside the district among persons belonging thereto; from this total of 1,856 there should be deducted the deaths of 95 persons occurring within the district among persons not belonging thereto, leaving the total number at 1761. Of these 95 persons 53 were visitors at Worthing and Littlehampton, while 42 were persons who died in Workhouses, and who came from places not included in the combination. The 53 deaths among visitors added to the above number of 1,761 make a total of 1,814 deaths.

The deaths and corrected death-rate in each of the past ten years are here shown:—

Year.	Population.	Deaths.			Total.	Rate. per 1000
		Male.	Female.			
1882 ...	95,746 ...	705	671	...	1,376	14'3
1883 ...	99,400 ...	782	705	...	1,487	14'9
1884 ...	100,306 ...	756	731	...	1,487	14'8
1885 ...	101,212 ...	816	706	...	1,522	15'0
1886 ...	102,118 ...	903	815	...	1,718	16'8
1887 ...	103,038 ...	802	733	...	1,535	14'9
1888 ...	103,958 ...	730	724	...	1,454	13'9
1889 ...	104,878 ...	701	662	...	1,363	13'0
1890 ...	105,798 ...	819	661	...	1,480	13'9
1891 ...	106,716 ...	951	863	...	1,814	17'0
Total.....		7,965	7,271		15,236	14'9

The death-rate in England and Wales in 1891 was equal to 20'2 per 1,000 persons living, the rate, however, being higher in large towns than in smaller places:—

	Death-rate in 1891.	Mean, 1881-90.
Chief Towns .....	21'1	20'3
Small Townsand Country Parishes	18'5	17'3
England and Wales .....	20'2	19'1



The following summary shows the changes in the death-rate in various districts during the last seventeen years :—

	West Sussex.	Chief Towns.	Rural Districts.	England.
1875 .....	17·0	24·2	20·7	22·7
1876-80.....	15·4	22·4	21·2	20·8
1881 .....	13·9	20·1	16·9	18·9
1882 .....	14·3	21·0	17·3	19·6
1883 .....	14·9	20·7	17·9	19·6
1884 .....	14·8	20·9	17·6	19·7
1885 .....	15·0	20·1	17·8	19·2
1886 .....	16·8	20·4	18·0	19·5
1887 .....	14·9	20·2	17·2	19·1
1888 .....	13·9	19·0	16·6	18·1
1889 .....	13·0	19·3	16·4	18·2
1890 .....	13·9	20·9	17·4	19·5
1891 .....	17·0	21·1	18·5	20·2

In each quarter of the past year the deaths were thus distributed :

	Male.	Female.	Total.	Per cent.
First Quarter .....	275	265	540	29·8
Second „ .....	257	235	492	27·1
Third „ .....	190	153	343	18·9
Fourth „ .....	229	210	439	24·2
Total.....	951	863	1,814	100·0

In each quarter of the previous ten years the deaths were as follows :—

Year.	1st Qr.	2nd Qr.	3rd Qr.	4th Qr.	Total.
1881.....	369	354	307	293	1,323
1882.....	381	319	329	347	1,376
1883.....	399	424	322	342	1,487
1884.....	381	333	383	390	1,487
1885.....	448	360	345	368	1,522
1886.....	544	429	373	372	1,718
1887.....	420	389	338	388	1,535
1888.....	448	382	307	317	1,454
1889.....	374	305	337	347	1,363
1890.....	451	324	309	396	1,480
Total ...	4,215	3,619	3,350	3,561	14,745
Per cent.	28·6	24·5	22·7	24·2	100·0

The deaths at different groups of ages in each quarter during the past year were as follows :—

	Under 1 year.	1-5.	5-15.	15-25.	25-60.	60 and over.	Total.
First Quarter...	106	65	22	17	96	234	540
Second „ ...	67	57	23	19	110	216	492
Third „ ...	56	31	24	13	74	145	343
Fourth „ ...	92	33	18	17	96	183	439
	—	—	—	—	—	—	—
Total.....	321	186	87	66	376	778	1,814
	—	—	—	—	—	—	—
Per 1,000 ...	177	102	48	37	207	429	1,000

These figures show that the increased mortality was chiefly among young children and aged people.

When the figures of the previous ten years are compared it will be seen that in infant life the first and third quarters are the most unfavourable ; that in old age the first quarter is most fatal, while the third quarter shows the least mortality ; and that from childhood up to sixty years of age the deaths are pretty uniformly distributed throughout the year.

1881-90.	Under 1 year.	1-5.	5-15.	15-25.	25-50.	60 & over.	Total.
First Quarter .....	735	445	199	181	909	1,746	4,215
Second „ .....	591	361	185	189	877	1,416	3,619
Third „ .....	653	282	165	183	812	1,255	3,350
Fourth „ .....	538	328	183	194	886	1,432	3,561
	—	—	—	—	—	—	—
Total.....	2,517	1,416	732	747	3,484	5,849	14,745
	—	—	—	—	—	—	—
Per 10,000 ...	1,707	960	496	506	2,363	3,968	10,000

The following table shows the number of deaths in each year at different groups of ages :—

	All Ages.	Under 1 year.	1-5.	5-15.	15-25.	25-60.	60 and over.
1881 .....	1,323	239	99	60	62	320	543
1882 .....	1,376	269	154	81	66	312	494
1883 .....	1,487	255	142	65	78	385	562
1884 .....	1,487	262	137	95	72	368	553
1885 .....	1,522	244	166	71	84	337	620
1886 .....	1,718	328	232	83	69	373	633
1887 .....	1,535	234	112	80	97	368	644
1888 .....	1,454	217	149	72	62	365	589
1889 .....	1,363	213	115	66	69	325	575
1890 .....	1,480	256	110	59	88	331	636
Total ...	14,745	2,517	1,416	732	747	3,484	5,849
Per 10,000		1,707	960	496	507	2,363	3,967
1891 .....	1,814	321	186	87	66	376	778
Per 10,000		1,770	1,025	480	363	2,073	4,289

### INFANT MORTALITY.

During the year 1891 there were 321 deaths of infants under one year of age out of a total of 1,814 deaths from all causes; of these 189 were male and 132 were female.

There were 2,837 births, so that the infant mortality, as measured by the number of deaths under one year of age to every 1,000 children born, was 113, against a rate of 83, 90, 88, 86, 87, 112, 84, 77, 77, and 97 in the ten preceding years.

Throughout England and Wales the rate of infant mortality in 1891 was equal to 15·1 per 1,000 against 147, 138, 149, 145, 136, 144, and 151 in the seven preceding years. In large towns the infantile death-rate is very much higher.

In each district the rate of infant mortality during the past three years was as follows :—

	1889.		1890.		1891.
Steyning .....	66	...	105	...	112
Horsham .....	76	...	112	...	85
Petworth.....	81	...	63	...	119
Thakeham .....	82	...	57	...	112
East Preston .....	88	...	88	...	102
Midhurst.....	66	...	86	...	127
Westbourne .....	69	...	63	...	87
Worthing .....	82	...	135	...	140
Littlehampton ...	58	...	45	...	107
Arundel .....	145	...	228	...	186
Mean .....	77		97		113

### ZYMOTIC MORTALITY.

Out of 1,814 deaths from all causes in 1891, 163 were due to this class of disorders, or 1·53 per 1000 persons living.

Table II. shows the mortality from these disorders during the past eleven years, the mean rate for 1881-90 being 1·36 per 1000 of population.

In England and Wales the rate from the seven principal zymotic disorders was equal to 1·83 per 1000 persons living, against 1·86, 2·22, and 2·14 in the three preceding years.

There were in this district 39 deaths from diseases in 1891, which are notifiable, and 124 deaths in the other class.

Notifiable.		Not notifiable.	
Diseases.	Deaths.	Diseases.	Deaths.
Small-Pox ... ..	none	Measles .....	54
Scarlatina .....	3	Whooping-cough .....	46
Diphtheria .....	21	Diarrhœa & Dysentery	18
Membranous Croup	1	Rheumatic Fever ...	6
Fever. {	Typhus .....		
	Enteric .....		
	Continued ...		
	Relapsing ...		
	Puerperal ...		
Cholera .....	none		
Erysipelas .....	5		
Total	39		124



The Infectious Disease (Notification) Act, 1889, came into operation at various periods in the years 1890 and 1891, and now it is adopted throughout the whole area except in the urban sanitary district of Horsham, which only joined the combination at the end of the year.

There is no isolation hospital in the district except the infectious wards in each union workhouse. At Petworth there is a cottage which is occasionally used, and at Hangleton there is a hospital belonging to Hove, into which a few cases from this district have been admitted.

The following table shows the number of cases notified, the deaths among such cases, and the ratio of mortality in each urban and rural sanitary district.

Scarlatina heads the list, followed at some distance by diphtheria, but the mortality from these diseases differs greatly. Measles and whooping-cough are much more prevalent, and cause a much higher death-rate, but they are not notifiable.

District.	Act came into operation	Small-pox	Scarlatina	Diphtheria	Membranous Croup	Enteric Fever	Con. Fever	Puerperal Fever	Erysipelas	Total
Steyning .....	May 1, 1891	—	22	5	1	4	—	—	3	35
Horsham.....	Apr. 2, 1890	1	51	12	—	12	—	1	4	81
Petworth.....	Feb. 2, 1891	—	10	20	—	—	—	—	14	44
Thakeham .....	Jan. 1, 1890	—	28	3	—	1	—	—	2	34
East Preston .....	Mar. 1, 1891	—	1	1	—	4	—	—	—	6
Midhurst.....	Jan. 1, 1890	—	2	64	1	6	2	—	7	82
Westbourne .....	Dec. 31, 1891	—	—	—	—	—	—	—	—	—
Worthing .....	Aug. 23, 1890	—	73	4	—	11	—	1	11	100
Littlehampton .....	Mar. 25, 1890	—	19	—	—	3	—	—	6	28
Arundel .....	May 23, 1891	—	2	—	—	2	—	—	1	5
Total number of cases		1	208	109	2	43	2	2	48	415
Total number of deaths		—	3	12	2	5	—	2	1	25
Ratio of deaths to 100 cases.....		—	1·4	11·0	100	11·6	—	100	2·1	6·0

In each quarter of 1891 the cases notified and the deaths occurring amongst them were thus recorded :—

Cases						Deaths				
	1st Qr.	2nd Qr.	3rd Qr.	4th Qr.	Total.	1st Qr.	2nd Qr.	3rd Qr.	4th Qr.	Total.
Small-pox .....	1	..	..	..	1	..	..	..	..	..
Scarlatina .....	42	51	47	68	208	..	1	..	2	3
Diphtheria .....	28	31	20	30	109	1	2	5	4	12
Membranous Croup .....	..	..	1	1	2	..	..	1	1	2
Fevers {	Typhus .....	..	..	..	..	..	..	..	..	..
	Enteric .....	14	6	10	43	2	..	2	1	5
	Continued .....	..	..	..	2	..	..	..	..	..
	Relapsing .....	..	..	..	..	..	..	..	..	..
	Puerperal .....	1	1	..	2	1	1	..	..	2
Cholera .....	..	..	..	..	..	..	..	..	..	..
Erysipelas .....	10	15	8	15	48	1	..	..	..	1
Total .....	96	104	86	129	415	5	4	8	8	25

### SALE OF FOOD AND DRUGS ACT, 1875 and 1879.

Summary of the report of the Public Analyst, Otto Hehner, Esq., appointed for the Western Division of the County of Sussex, upon the articles analysed by him under the above Acts during the year 1891 :—

First Quarter, ending March 31st, 1891.

Article.	Result.
Milk, 7 samples.....	5 genuine, 2 adulterated with 9 and 11 per cent. of water respectively.
Castor Oil, 7 samples...	All genuine.
Cod Liver Oil, 1 sample	Genuine.
Olive Oil, 4 samples ...	2 genuine, 1 adulterated with 67 per cent. cotton oil, 1 consisting of 25 per cent. mineral, and 75 per cent. cotton oil.

Total number of samples analysed during the quarter, 19.  
Adulterated, 4

• Second Quarter, ending June 30th, 1891.

---

Article.	Result.
Butter, 2 samples .....	Genuine.
Milk, 1 sample .....	Genuine.

---

Total number of samples analysed during the quarter, 3.  
Adulterated, none.

Third Quarter, ending September 30th, 1891.

---

Article.	Result.
Spirits, 41 samples ...	31 genuine, 10 adulterated with water varying from 2 to 31 per cent.
Bread, 14 samples.....	All genuine.
Butter, 15 samples ...	All genuine.
Milk, 15 samples .....	13 genuine, 2 adulterated with 12 and 16 per cent. of water.

---

Total number of samples analysed during the quarter, 85.  
Adulterated, 12.

Fourth Quarter, ending December 31st, 1891.

---

Article.	Result.
Spirits, 8 samples .....	5 genuine, 3 adulterated with 6, 12 and 18 per cent. of water.
Milk, 6 samples.....	5 genuine, 1 adulterated with 10 per cent. of water.

---

Total number of samples analysed during the quarter, 14.  
Adulterated, 4.

There were 121 samples analysed during the year 1891, of which 101 were genuine, and 20 were adulterated. In 18 cases the adulteration consisted of added water, and in 2 cases, inferior oils were substituted for olive oil.

The Committee of the County Council reported that during their term of office they have caused to be taken 284 samples, of which 36 were reported as adulterated, and 25 convictions were obtained, 25 vendors were fined, and 7 licenses endorsed, the total amount of fines being £46 18s.

The expenses of administering the Act were as follows :—

	£	s.	d.
Public Analyst ... ..	158	18	11
Purchase and carriage of samples ...	17	4	8
Clerk's expenses ... ..	61	4	9
Printing ... ..	2	5	6
Sundries ... ..	7	1	4
	<hr/>		
	£246	15	2
	<hr/>		

The amount of money voted for the expenses of the Committee was £342 10 0.

The Committee regret that, owing to the existing state of the law it has been impossible for them to secure convictions for the adulteration of samples of malt liquors.

## METEOROLOGY.

The year 1891 was an unfavourable one from a sanitary as well as an agricultural point of view. The early part of the year was marked by a very cold period, which set in on November 25th, 1890, and continued until January 23rd, 1891, and which lasted for 59 days. In Worthing there was a consecutive period of 48 days, in which the temperature as recorded by the self-registering glass thermometer, was never higher than 31·8 degrees. In January, the mean temperature for the month was 34·4 degrees, or 8·8 degrees below the corresponding month in 1890, when the weather was unusually warm and when influenza was very prevalent.

February was a very dry and cold month, with occasional fogs and an unusual amount of sunshine ; no rain fell, and the small amount recorded was due to hoar frosts or to fog.

Such a dry February has never been registered at Worthing before. The wind was N.E. to E.N.E. and anticyclonic conditions prevailed. The first week of March was dry, fine, and without frost ; on the 7th rain fell, and on the 9th and 10th much snow fell and a fierce gale prevailed from N.E. to E.N.E. Stormy and cold wet weather was met with during the rest of the month.



The first quarter was characterised by cold weather and a rainfall below the average ; the sunshine was above the average, but its effective heat was less. Vegetation was backward, and the death-rate was high. There were 540 deaths in 1891 against 374 in 1889, and 451 in 1890.

April was cold and dry with much prevalence of N.E. winds. The total rainfall for the month was 0·52 inches, or 1·11 inches below the average of the previous twenty years. May began with a genial temperature and a good fall of rain ; then it was warm and dry until the 15th, when a cold wave set in and rain fell freely for a week ; during the last week the weather was milder, the prevailing wind was S.W., and a little rain fell. The total rainfall for May was 2·14 inches, being 0·36 inches above the average of twenty years. The weather in this month was very changeable, but it was mostly cold and unseasonable ; it followed the cold winds and low temperature of the previous months, and vegetation was very backward.

June was a warm, genial month with no night frosts, and with winds varying from N.E. to S.W. A little rain fell at the commencement, and again at the end, of the month, but the greater part of the period was dry and warm. The deaths in this second quarter were very high ; they amounted to 492 in 1891, against 305 in 1889, and 324 in 1890. Farming operations were very backward, and haymaking was much delayed.

The drought was becoming serious, as only 9·62 inches of rain had fallen in the whole of the half-year, and this small amount followed upon a period of four comparatively dry years.

July opened with stormy and unsettled weather, and rain fell freely, with winds varying from S.W. to N.W. ; in the second week there was no rain, the temperature rose, and the prevailing wind was N.E. to S.E. with a drier atmosphere. The third week was fine, but afterwards up to the end of the month, the weather was stormy and wet with a low temperature. Much rain fell on the 22nd and 26th, and the total rainfall was much above the average. The sunshine was less than usual. August was a cold, dull, wet and sunless month ; heavy rain and gales delayed and injured all kinds of crops. The total rainfall amounted to 4·36 inches, falling on 18 days. There was not such a wet August since 1881, when 4·18 inches fell, and in 1879 when the record was 5·18 inches. There was again a deficiency of sunshine.

In September the weather improved, and it at last became fine and hot, with bright clear skies and light winds from the S.E. The highest temperature of the year occurred on the 12th, when it was 77·0 degrees. In the third week a little rain fell, but the total for the month was small. The amount of bright sunshine was higher than in August, although the sun was not so many hours above the horizon. By the end of the third quarter, the deficient rainfall had in some measure been made up, as the amount collected in the three months was nearly equal to the amount that fell in the first half-year. There were 343 deaths in this period, against 337 in 1889 and 309 in 1890.

In October the weather was mild, but there were high winds from the W. and S.W., with heavy rain. The nights were warm until the last week of the month, when the rain ceased, the wind passed to N.E. and E.N.E., and the weather became cold, especially at night. The total rainfall for October was 6·10 inches, being 2·61 inches above the average of the previous twenty years; the previous wettest October was in 1882, when 8·46 inches were registered. The early part of November was cold and dry, but the second week was very stormy and tempestuous, with a severe gale from the S.S.W. on the 11th, on which day, at noon, the barometer sank to 28·41 inches, followed by a rapid rise of 0·80 inches in the next twelve hours. Thence to the 20th the weather was mild, with rain nearly each day; colder weather set in during the last ten days. The rainfall was 0·10 inches above the average of twenty years.

December at first was mild, very stormy and unsettled, with W. and S.W. winds; rain falling every day until the 12th, when a sharp frost occurred. Then a cold period set in, with dry winds from the E. and N.E.; from the 19th to the 25th, the temperature was much below the average, while it was above the average from the 26th to the end of the year.

The rainfall for the quarter amounted to 2·65 inches, an amount of 0·25 inches above the average of the previous twenty years.

The amount of bright sunshine during these three months was 263·8 hours; the amount was above the average in October and December, but below in November.

The deaths were again more numerous, especially during December; there were 439 deaths in 1891, against 347 in 1889 and 396 in 1890. The last three wet months brought up the

rainfall at Heene to 29·86 inches, while still larger quantities were recorded at the three other stations in the district. This amount is much in excess of the mean for the previous five years, and about 0·9 inches in excess of the mean for the years 1881-85.

The small rainfall of 9·62 inches in the first half of the year was followed by a fall of 20·24 inches in the second half of the year, which carried the amount above the mean. The wet July and August coming after a cold, backward spring, were very injurious to harvest operations and fruit crops ; the wet concluding months of the year caused a succession of floods.

916·1 hours of bright sunshine were recorded at Brighton in the cold dry weather in the first six months of the year, while 801·5 hours were recorded in the dull cool weather in the last six months of the year.

The mean amount of temperature, rainfall and sunshine for the whole year do not vary very much from those recorded in other years, but the singular distribution of these factors in each month made the year a disastrous one for agriculture and for the public health.

### RAINFALL.

The rainfall at two different places in the combined district is here contrasted for a term of ten years :—

Year.	WORTHING.				PSTWORTH.			
	Inches.		Rainy days.		Inches.		Rainy days.	
1882 .....	32·70	...	191	...	35·69	...	145	
1883 .....	28·10	...	170	...	35·80	...	142	
1884 .....	24·75	...	119	...	26·65	...	115	
1885 .....	29·28	...	150	...	33·30	...	124	
1886 .....	31·89	...	164	...	38·09	...	147	
1887 .....	21·30	...	127	...	28·57	...	103	
1888 .....	25·73	...	175	...	35·38	...	116	
1889 .....	23·10	...	149	...	28·35	...	141	
1890 .....	22·74	...	149	...	29·30	...	139	
1891 .....	31·90	...	190	...	42·15	...	164	
Mean.....	27·15		158		33·33		134	



## DURATION OF BRIGHT SUNSHINE.

The figures for Brighton have been kindly furnished by Dr. Newsholme, and those for Westbourne by Rev. L. B. Birkett.

---

	Hours of Bright Sunshine.		Sunless Days.	
	Brighton.	Westbourne.	Brighton.	Westbourne.
January .....	73·5	117·9	11	8
February.....	121·1	125·8	4	5
March.....	107·8	96·8	4	6
First Quarter .....	302·4	340·5	19	19
April .....	148·3	131·6	4	6
May .....	235·7	209·4	2	3
June .....	229·7	224·0	0	1
Second Quarter .....	613·7	565·0	6	10
July.....	214·3	192·5	0	0
August .....	161·5	158·6	3	3
September .....	161·9	165·3	3	2
Third Quarter .....	537·7	516·4	6	5
October .....	120·2	122·7	7	7
November .....	69·4	51·2	9	11
December .....	74·2	87·0	9	9
Fourth Quarter .....	263·8	260·9	25	27
Total .....	1717·6	1682·8	56	61
Year 1890	1708·8	1773·8	66	68

---

The duration of bright sunshine at Greenwich for the year 1891 amounted to 1,231 hours, the sun being above the horizon for 4,446 hours, or 27·6 per cent. of possible duration.



The following Table is also taken from observations made by W. J. Harris, Esq., F.R. Met. Soc., who has kindly allowed me to make use of them. The facts recorded concern Worthing only:—

MONTH.	TEMPERATURE.						Relative Humidity.	Amount of Cloud.	RAIN.	
	MEANS.								Amount.	No. of Days.
	EXTREMES.									
	9 a.m.	Min.	Max.	Range.	Mean.	Min.				
January. ....	deg. 34.1	deg. 29.2	deg. 39.5	deg. 10.3	deg. 34.4	deg. 16.5	deg. 47.1	5.0	inches. 2.43	15
February. ....	38.6	32.2	47.0	14.8	39.6	26.0	57.2	4.9	0.09	6
March. ....	40.6	33.8	45.5	11.7	39.6	26.1	52.9	6.6	2.60	16
April. ....	45.8	36.8	47.7	10.9	42.3	27.0	64.1	6.6	0.52	8
May. ....	51.2	43.1	57.8	14.7	50.5	31.0	76.0	5.4	2.14	15
June. ....	59.9	50.4	65.4	15.0	57.9	38.8	73.4	5.5	1.84	12
July. ....	61.2	53.4	66.2	12.8	58.9	42.2	71.8	6.5	3.06	14
August. ....	59.6	52.7	64.9	12.2	58.7	42.2	68.6	6.9	4.36	18
September. ....	61.4	53.7	65.5	11.8	59.6	43.2	77.0	5.3	0.93	11
October. ....	53.5	47.6	58.0	10.4	52.8	33.1	64.1	5.8	6.10	20
November. ....	44.0	39.1	49.5	10.4	44.3	40.0	55.2	6.2	3.14	16
December. ....	42.3	37.3	47.4	10.1	42.3	54.3	25.5	5.9	2.65	21
Year 1891. ....	49.4	42.4	54.8	12.2	48.4	16.5	77.0	5.9	29.86	172
" 1890. ....	49.4	42.2	54.6	12.4	48.4	14.9	78.0	6.4	22.74	149
" 1889. ....	49.5	42.7	54.8	12.1	48.8	21.9	81.5	6.4	23.92	159
" 1888. ....	48.0	42.4	53.3	10.9	47.8	20.2	78.8	6.4	25.88	181
" 1887. ....	48.4	41.6	54.1	12.5	47.9	17.4	82.0	5.7	21.28	137
" 1886. ....	50.0	44.0	55.2	11.2	49.6	23.2	78.0	5.8	31.89	164
" 1885. ....	50.0	43.7	55.1	11.4	49.4	25.2	81.7	5.7	28.09	156
" 1884. ....	52.0	45.6	56.8	11.2	51.2	27.0	83.3	5.8	23.51	126
" 1883. ....	50.7	43.9	55.9	12.0	49.9	23.3	75.7	5.7	26.05	174

## THE TEMPERATURE OF THE SOIL.

The temperature of the soil at 9 a.m., one foot below the surface of the ground at Worthing, has been taken daily by W. J. Harris, Esq., F.R. Met. Soc. and the results for each month for 1891, and also for a term of years, are here given :—

	1891.			1886.	1887.	1888.	1889.	1890.
	Mean.	Max.	Min.	Mean.	Mean.	Mean.	Mean.	Mean.
January.....	35·1	40·8	32·4	37·7	37·3	38·3	39·3	42·7
February ...	39·3	41·3	36·8	36·7	39·2	37·2	38·7	40·1
March .....	40·6	43·4	37·8	39·1	40·3	39·0	40·6	42·6
April .....	45·1	49·0	40·7	48·1	45·2	44·0	47·2	47·3
May .....	52·6	57·4	48·9	55·1	55·1	52·2	56·6	55·8
June .....	56·9	64·1	55·9	60·4	59·4	58·0	62·5	58·6
July .....	62·1	65·4	58·6	64·1	64·4	60·1	62·7	60·3
August .....	60·6	62·8	59·0	63·8	63·1	60·9	61·0	61·2
September ..	59·7	63·9	56·7	61·6	57·2	58·4	58·6	59·9
October ...	53·8	59·4	46·7	54·2	49·9	49·8	51·5	52·3
November...	48·8	48·0	40·0	47·1	44·4	49·0	47·2	49·9
December...	42·6	48·9	35·3	39·0	40·2	44·2	40·5	36·0
Year ...	48·9	65·4	32·4	50·6	49·3	49·3	50·5	50·3

	Mean.	Max.	Min.
In 1885 .....	50·8	.....	36·1
In 1886 .....	50·6	.....	34·3
In 1887 .....	49·3	.....	35·0
In 1888 .....	49·3	.....	34·6
In 1889 .....	50·5	.....	35·3
In 1890 .....	50·3	.....	33·8
In 1891 .....	48·9	.....	32·4

## SANITARY LEGISLATION IN 1891.

The principal measure passed during the session was the Public Health (London) Act, 54 and 55, Vict. c. 76, which, however, does not apply to country districts.

TABLE I.—Showing the Births and Birth-rate in 1882-91.

DISTRICT.	FIRST QUARTER.			SECOND QUARTER.			THIRD QUARTER.			FOURTH QUARTER.			YEAR.			Rate per 1,000.
	M.	F.	TL.	M.	F.	TL.	M.	F.	TL.	M.	F.	TL.	M.	F.	TL.	
1882.....	449	392	— 841	382	321	— 703	397	331	— 728	364	337	— 701	1592	1381	— 2973	31·05
1883.....	391	381	— 772	358	353	— 711	367	359	— 726	344	333	— 677	1460	1426	— 2886	29·03
1884.....	374	371	— 745	431	358	— 789	370	356	— 726	403	370	— 773	1578	1455	— 3033	30·23
1885.....	402	367	— 769	332	323	— 655	371	314	— 685	351	336	— 687	1456	1340	— 2796	27·62
1886.....	397	386	— 783	404	370	— 774	350	342	— 692	344	325	— 669	1495	1423	— 2918	28·57
1887.....	337	322	— 659	349	343	— 692	369	336	— 705	345	366	— 711	1400	1367	— 2767	26·95
1888.....	360	346	— 706	409	374	— 783	323	319	— 642	345	303	— 648	1437	1342	— 2779	26·73
1889.....	329	346	— 675	371	332	— 703	360	334	— 694	359	335	— 694	1419	1347	— 2766	26·37
1890.....	353	329	— 682	307	311	— 618	331	320	— 651	338	339	— 677	1329	1299	— 2628	24·88
1891.....	333	360	— 693	394	359	— 753	374	339	— 713	343	335	— 678	1444	1393	— 2837	26·58

TABLE II.—Showing the Deaths and Death-rate from Zymotic Diseases in each of the years, 1881-90, and in 1891.

Year.	Small Pox.	Measles.	Scarlatina.	Diphtheria.	Whooping Cough	Cont. Fevers.			Diarrhoea.	Rheumatic Fever.	Erysipelas.	Pyæmia.	Puerperal Fever.	Total.	Rate per 1,000 persons living.	Population.
1881.....	1	1	15	25	10	...	12	1	17	7	7	2	5	103	1·08	94,841
1882.....	...	16	15	35	53	...	10	3	19	4	7	1	1	164	1·71	95,746
1883.....	5	21	13	24	13	1	18	...	23	6	5	...	2	131	1·32	99,400
1884.....	...	5	22	32	14	2	12	...	38	...	11	3	4	143	1·42	100,306
1885.....	1	12	15	41	24	2	17	4	23	3	10	...	...	152	1·50	101,212
1886.....	3	45	9	23	88	1	20	...	54	3	4	2	4	256	2·51	102,118
1887.....	...	3	11	19	4	2	14	2	37	3	3	3	...	101	0·98	103,038
1888.....	...	4	22	23	51	...	3	...	15	...	8	1	4	131	1·26	103,958
1889.....	...	7	1	25	26	...	10	1	11	7	3	1	...	92	0·88	104,878
1890.....	...	12	6	12	22	1	22	...	24	2	3	...	1	105	0·99	105,798
Total .....	10	126	129	259	305	9	138	11	261	35	61	13	21	1378	1·36	
In 1891	...	54	3	†22	46	...	7	...	18	6	5	...	2	163	1·53	106,716

† Including one from membranous croup.



TABLE III.—Showing the Deaths in each Month in the ten years 1881-90, and in 1891.

Month.	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	Total.	1891
January .....	125	132	127	117	182	155	130	135	108	149	1360	210
February .....	118	108	118	124	151	185	120	142	125	151	1342	164
March .....	126	141	154	140	115	204	170	171	141	151	1513	166
April .....	131	98	148	118	129	168	126	142	135	122	1317	173
May .....	117	118	137	101	130	140	144	137	98	121	1243	159
June .....	106	103	139	114	101	121	119	103	72	81	1059	160
July .....	93	100	107	116	117	111	112	97	116	104	1073	116
August .....	110	112	108	147	112	131	111	115	102	101	1149	114
September .....	104	117	107	120	116	131	115	95	119	104	1128	113
October .....	109	100	104	125	97	105	136	125	113	109	1123	119
November .....	98	116	125	121	130	116	118	99	103	126	1152	136
December .....	86	131	113	144	142	151	134	93	131	161	1286	184
Year .....	1323	1376	1487	1487	1522	1718	1535	1454	1363	1480	14745	1814

TABLE IV.—Showing the Deaths and Death-rate from all causes and from various causes in the ten years,  
1881-90, and in 1891.

Year.	Annual Number of Deaths.					Population in the middle of the year.	Annual Rate per 100,000 living.				
	All Diseases	Zymotic Disease.	Phthisis.	Lung Disease	Heart Disease.		All Diseases	Zymotic Disease	Phthisis.	Lung Disease	Heart Disease
1881.....	1323	103	117	193	128	94,841	1395	108	123	203	135
1882.....	1376	164	131	191	120	95,746	1437	171	137	199	125
1883.....	1487	131	158	209	134	99,400	1496	132	159	210	135
1884.....	1487	143	159	222	147	100,306	1482	142	158	221	146
1885.....	1522	152	126	266	126	101,212	1504	150	124	263	124
1886.....	1718	256	159	291	142	102,118	1682	251	155	285	139
1887.....	1535	101	189	245	158	103,038	1490	98	183	238	153
1888.....	1454	131	148	225	165	103,958	1398	126	142	216	159
1889.....	1363	92	138	197	135	104,878	1300	88	131	188	128
1890.....	1480	105	131	248	172	105,798	1399	99	124	234	162
Total .....	14745	1378	1456	2287	1427		1458	136.5	143.6	225.7	140.6
1891.....	1814	163	123	346	163	106,716	1700	153	115	324	153

(A)—Table of DEATHS during the Year 1891, in the Combined Sanitary

Names of Localities adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.  (a)	MORTALITY FROM ALL CAUSES, AT SUBJOINED AGES.							(i)	1	2	3
	At all ages. (b)	Under 1 year. (c)	1 and under 5. (d)	5 and under 15. (e)	15 and under 25. (f)	25 and under 60. (g)	60 and upwards. (h)		Small Pox. (i)	Scarlatina. (j)	Diphtheria. (k)
Steyning R. S. D. ....	296	62	35	11	8	70	110	Under 5 ..... 5 upwards.			4 ..... 3
Horsham R. S. D. ....	248	40	27	10	11	47	113	Under 5 ..... 5 upwards.		1	3
Petworth R. S. D. ....	153	30	17	8	7	21	70	Under 5 ..... 5 upwards.			1 ..... 1
Thakeham R. S. D. ....	125	25	6	5	6	26	57	Under 5 ..... 5 upwards.		1	
East Preston R. S. D. ....	143	25	7	5	5	30	71	Under 5 ..... 5 upwards.			
Midhurst R. S. D. ....	267	45	26	16	10	45	125	Under 5 ..... 5 upwards.			4
Westbourne R. S. D. ....	124	17	10	9	7	24	57	Under 5 ..... 5 upwards.			3 ..... 3
Worthing U. S. D. ....	335	55	45	16	10	91	118	Under 5 ..... 5 upwards.		1	
Littlehampton U. S. D. ....	76	10	11	5	2	14	34	Under 5 ..... 5 upwards.			
Arundel U. S. D. ....	47	11	3	2	1	10	20	Under 5 ..... 5 upwards.			
TOTALS .....	1814	320	187	87	67	378	775	Under 5 ..... 5 upwards.		1 ..... 2	8 ..... 14

The subjoined numbers have also to be taken into

Deaths occurring outside the District among persons belonging thereto.....	42	1	1	—	1	10	29	Under 5 ..... 5 upwards.			
Deaths occurring within the District among persons not belonging thereto.....	95	3	4	4	2	29	53	Under 5 ..... 5 upwards.			1 ..... 1



## District of WEST SUSSEX, classified according to Diseases, Ages, &amp; Localities.

MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN  
UNDER FIVE YEARS OF AGE.

4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Membranous Croup.	FEVERS.					Cholera.	Erysipelas.	Measles.	Whooping Cough.	Diarrhoea and Dysentery.	Rheumatic Fever.	Ague.	Phthisis.	Bronchitis, Pneumonia, Pleurisy.	Heart Disease.	Injuries.	All other Diseases.	TOTALS.
	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.													
I								8	8	5				18		2	51	97
		2								1	3		13	38	27	12	100	199
								2	4					22		1	38	67
		2			1			1		2			18	28	31	4	90	181
									8					16		3	19	47
													13	15	15	5	57	106
									2	1				4			24	31
		1								1	1		8	18	13	3	48	94
								2	2	1				8		1	18	32
		2					2			3			8	21	12	4	59	111
I								1	6					21		1	41	71
									1		2		14	31	22	5	117	196
							1		2					7			14	27
		1							1	1			7	28	4	4	48	97
								33	5	2				10	1	4	44	100
					1		2	7		1			33	42	25	9	115	235
									4					6		1	10	21
									2				6	5	9	3	30	55
									1					3		1	9	14
													3	5	4		21	33
2							1	46	42	9				115	1	14	268	507
		8			2		4	8	4	9	6		123	231	162	49	685	1307

account in judging of the above records of mortality.

														1		1		2
										1	1			8	2	1	27	40
								2	1							1	2	7
		1					1	1		2			7	22	6	6	41	88



(B)—Table of POPULATION, BIRTHS, AND OF NEW CASES OF  
of Health, during the year 1891, in the combined Sanitary District of

Names of Localities adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.	POPULATION AT ALL AGES.	Registered Births.	Aged under 5 or over 5.	NEW CASES OF COMING TO THE KNOW OF				
(a)	Census 1891. (b)	(d)	(e)	1 Small Pox.	2 Scarlatina.	3 Diphtheria.	4 Membranous Group.	5 Typhus.
Steyning R. S. D.....	19030	561	Under 5 5 upwards.		6 16	3 2	1	
Horsham R. S. D. ....	16248	467	Under 5 5 upwards.		9 42		12	
Petworth R. S. D. ....	9431	251	Under 5 5 upwards.		3 7	5 15		
Thakeham R. S. D. ....	8054	223	Under 5 5 upwards.		6 22		3	
East Preston R. S. D. ....	8692	244	Under 5 5 upwards.			1 1		
Midhurst R. S. D. ....	14235	353	Under 5 5 upwards.			6 2	1 58	
Westbourne R. S. D. ....	7084	194	Under 5 5 upwards.					
Worthing U. S. D.....	16606	392	Under 5 5 upwards.		18 55		4	
Littlehampton U. S. D. ....	4452	93	Under 5 5 upwards.		2 17			
Arundel U. S. D. ....	2644	59	Under 5 5 upwards.			2		
			Under 5 5 upwards.					
TOTALS .....	106476	2837	Under 5 5 upwards.		44 164	14 95		2

FECTIONOUS SICKNESS, coming to the knowledge of the Medical Officer  
 EAST SUSSEX; classified according to DISEASES, AGES and LOCALITIES.

[illegible]

